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Table of Contents

Vol. 40 No. 20 — September 25, 1941

News Developments

Trends: Final Quarter 1941 to Bring Record Demand to Domestic Markets 21
Vast Oil-Traffic Changes Adopted to Supply East ..... *H. Stanley Norman* 22
Industry Must Gear Operations to Still Greater War Needs ..... *J. P. O'Donnell* 24
This Week 25
Questions and Answers on Priorities 26
Oil Men Warned to Survey Equipment Needs Promptly 27
News From the State Capitals 28
Editorial: 4,000,000-Bbl. Responsibility 29
Demand for Domestic Crude Oil Raised to 4,012,900 Bbl. Daily 30
Illinois Operators Assail Delay in Creating Oil-Gas Division 30
Watching Washington ..... *Henry D. Ralph* 31
Deaths 32
The Markets 32
International News 35
Refinery Expansion 36
Natural-Gas News 36
Programs and Meetings 38
Well Logs and Field Data: Northeast Texas, Northwest Louisiana 56b
Pipe-Line Activity 66
Ellenburger Structure Large in West Wichita County, Texas ..... *R. Marne Sanford* 70
Pennsylvania Oil Men Welcome Postponement of Conference 103

Engineering—Operating

Caustic-Methanol Mercaptan Extraction Process Used ..... *H. W. Field* 40
Refinery Ideas 43
Gas-Gathering and Discharge Systems, Louden Pool ..... *J. R. Randolph* 46
Completion Methods Employed in Wabash Valley Area ..... *F. C. Ploeger and J. R. Vaughan* 52
Use of Acid-Soluble Cement in Cementing Oil and Gas Wells ..... *R. L. Tracy* 56
Prevention of Pipe Corrosion Highly Developed Technique ..... *Starr Thayer* 60
Operating Ideas 62
Progress in Metals ..... *W. L. Nelson* 65

Field Developments

Field Developments 69
Kansas, Nebraska ..... *Robert Ingram* 72
N. Louisiana, Arkansas *George Weber* 75
Illinois 76
Indiana, Ohio, Kentucky 78
Oklahoma ..... *Robert Ingram* 81
California ..... *L. P. Stockman* 82
Southwest Texas ..... *F. L. Singleton* 86
Rocky Mountain Area *T. R. Ingram* 89
North Central Texas *R. Marne Sanford* 92
Appalachian Fields 96
Permian Basin, Panhandle ..... *R. Marne Sanford* 99
Texas Gulf Coast ..... *Neil Williams* 101
Michigan ..... *Otto C. Pressprich* 102
Louisiana Gulf Coast *F. L. Singleton* 104
Eastern Texas ... *R. Marne Sanford* 105
Among Drilling Contractors 108
Summary of Operations (August) 110-111
Canada ..... *Victor Lauriston* 112
Mississippi ..... *George Weber* 113

Markets and Prices

Group 3 Market .. *H. Stanley Norman* 118
New York Market .... *J. P. O'Donnell* 119
A.P.I. Refinery Report 119
Tank-Wagon Market 120
Refinery Prices 121
Crude-Oil Prices 121

Additional Features

Personal Paragraphs 116
Record of Oil Securities 122
Equipment News 123
Classified Advertising 126-127
Advertisers' Index 128

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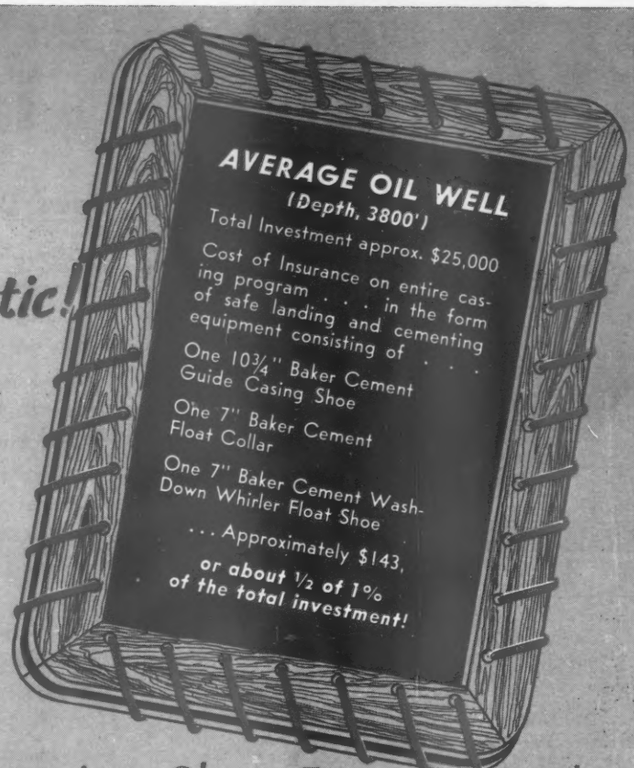
WHEN BUYING GUIDING, FLOATING AND CEMENTING EQUIPMENT . . .

Don't Forget your 'Rithmetic!

In landing and cementing casing, the cost of the necessary guiding, floating, and cementing equipment represents *only a very small fraction* of the total well investment, yet the safety and efficiency with which these units do their job have a vital bearing on the future of the well as a profitable producer.

That is why the Baker Cement Wash-Down Whirler Float Shoe and Baker Cement Float Collar combination is the choice of operators *who want to be sure of safely landing* and then *efficiently cementing* their casing string. With Baker units nothing is left to chance . . . for Baker Shoes and Collars are designed, engineered, and manufactured to do THREE THINGS: (1) Land casing safely; (2) cement it efficiently; and (3) drill out easily.


AVERAGE OIL WELL
(Depth, 3800')
Total Investment approx. $25,000
Cost of Insurance on entire casing program . . . in the form of safe landing and cementing equipment consisting of . . .
One 10¾" Baker Cement Guide Casing Shoe
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The Most Efficient Cementing Shoe Ever Devised

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Here's Why!

Product No. 120

BAKER CEMENT WASH-DOWN WHIRLER *FLOAT SHOE

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(1) THREADED CONNECTION FURNISHED TO FIT ANY TYPE CASING. Baker Floating Units can be furnished with threaded connection to fit the specifications of your casing. (Float collars can be furnished with both "female" and "male and female" threaded connections.) Manufacturing precision assures thread uniformity and accuracy.

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(3) POSITIVE, LEAK-PROOF BACK-PRESSURE VALVE. The buoyant Plastic BALL-TYPE Back-Pressure Valve floats in the cement slurry or rotary mud and instantly forms a leak-proof double seal against a narrow, tough rubber ring (backed by Plastic and concrete) at the slightest reversal of pressure. Here is Valve Efficiency at its best.

(4) AMPLE CIRCULATION AREAS. The correctly designed, streamlined Valve Assembly provides passageways ample for any circulating or cementing operation . . . a fact attested to by actual field performance under the most severe operating conditions.

(5) BAFFLED WHIRLER PORTS. These whirler ports provide the important wash-down whirler action so advantageous in circulating and cementing operations. When the fluid strikes these baffled ports, a downward and then an upward whirling motion results. In running in, this whirling action provides a means of effectively washing away bridges. During cementing, the whirling action, imparted first to the fluid preceding the slurry and then to the slurry itself, properly prepares the hole to receive the cement. It then assures best possible distribution of a uniform body of cement around the shoe and the shoe joint, reducing the hazard of channeling to a minimum. Here is the ultimate in cementing efficiency.

(6) EASY DRILLABILITY. Complete and easy drillability results from the internal construction of Baker-Formula Concrete and Plastic . . . the Plastic BALL-TYPE Valve Assembly being set on end in the concrete plug to present a minimum cross-sectional area to the drilling bit. The concrete and the Plastic are quickly and easily drilled up and circulated out of the hole.

For complete details concerning Baker Cement Whirler Equipment, contact the nearest Baker office or field representative; or refer to Pages 222 and 223 of the 1941 Baker (or Composite) Catalog.

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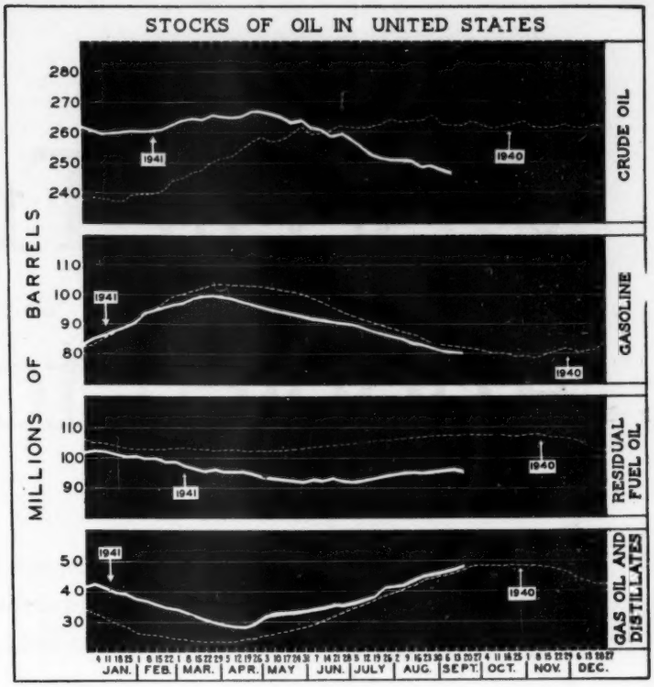
Trends

Final Quarter 1941 To Bring Record Demand To Domestic Markets



UNLESS a more severe rationing program is made effective than is now in prospect, the final lap of 1941 which starts next Wednesday, October 1, will bring the largest quarterly petroleum demand of the year and the largest in the history of the industry. The Bureau of Mines estimates that the October outlets for domestic crudes will exceed 4 million barrels daily accompanied by a motor-fuel consumption in this country which will be only slightly less than the average monthly requirements of the past summer. Trends in total consumption so far this year have been similar to those of 1940. Petroleum demands for the last quarter of 1940 were 26.3 per cent of the total for the entire year and 7 per cent greater than the summer quarter.

CRUDE PRODUCTION *4,062,735 bbl. daily average—up 35,085 bbl. One year ago 3,630,610 bbl.*

CRUDE STOCKS *246,164,000 bbl. as of September 13—down 1,364,000 bbl. One year ago 262,475,000 bbl.*

GASOLINE STOCKS **80,199,000 bbl. as of September 20—down 356,000 bbl. One year ago 82,565,000 bbl.*

RESIDUAL FUEL-OIL STOCKS *95,005,000 bbl. as of September 20—down 748,000 bbl. One year ago 107,403,000 bbl.*

GAS OIL AND DISTILLATES *48,907,000 bbl. as of September 20—up 1,636,000 bbl. One year ago 47,439,000 bbl.*

REFINERY RUNS *3,995,000 bbl. daily week ended September 20—down 15,000 bbl. One year ago 3,680,000 bbl.*

*Includes 7,539,000 bbl. aviation motor fuel, up 87,000 bbl. One year ago 5,931,000 bbl.

While the gains in prospect for the final 3 months of this year are exceptionally large, it is not unusual for petroleum demands to show a steady upward trend throughout the calendar year. Officials of the Office of Petroleum Coordinator have pointed to this situation in stressing the fact that petroleum needs in the Atlantic seaboard states over the next 6 months will be greater than they have been so far this year although the season of maximum gasoline use has passed. The OPC has emphasized this fact in support of its contention that the shortage of petroleum supplies due to the requisitioning of tankers will be more acute as requirements expand over the remainder of this year and through the early part of 1942.

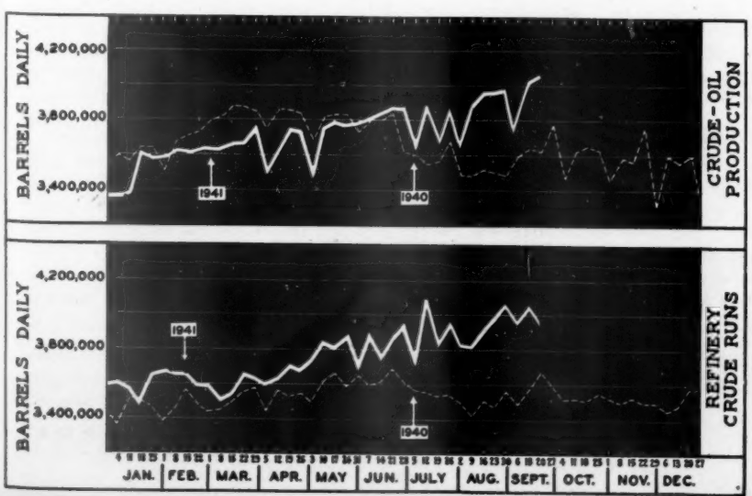
While the Bureau of Mines estimate of demand for October was confined to crude oil and gasoline, other surveys within the industry indicate that next month and throughout the last quarter of the year, the domestic consumption of practically all petroleum products will be greater than during the same period of any previous year. The large gasoline consumption is the result of a near record production of 1941-model motor vehicles coupled with a prosperity arising from defense activities which has brought a greater consumption of gasoline per car. The 10 per cent reduction in deliveries to Atlantic seaboard states will of course have some effect on this trend but it will not change it materially unless the government-sponsored rationing program expands to other areas or the percentage reduction is increased.

While the attention of the industry has centered on gasoline those in close touch with conditions also stress the demands in prospect for the heavier oils. It is pointed out that demands for the residual oils as fuel for defense industries will be heavy over the next several months with marine requirements, including the Navy, greater than they were a year ago.

DAILY AVERAGE PRODUCTION FOR WEEK

	Sept. 20, 1941	Bur. Mines Sept. est. of demand	Sept. state allowables	Sept. 13, 1941
Arkansas	75,810	79,000	76,000	75,595
California	648,550	634,700	610,000	653,150
Eastern fields	112,000	121,200	.....	111,500
Illinois	407,415	392,500	.....	391,910
Kansas	258,800	239,800	248,800	244,050
Louisiana	334,940	324,000	328,650	335,745
North Louisiana	*81,190*	.....	.....	*80,445*
Louisiana Gulf Coast	*253,750*	.....	.....	*255,300*
Michigan	52,010	39,500	42,000	51,860
Mississippi	55,220	33,000	.....	53,630
Nebraska	7,150	5,000	.....	7,000
New Mexico	114,640	113,200	113,200	114,110
Oklahoma	422,250	489,800	428,000	417,300
Rocky Mountain states	111,700	109,700	.....	105,200
Texas	1,462,250	1,378,600	1,357,000	1,466,600
East Texas	*369,600*	.....	.....	*369,750*
West Texas	*279,050*	.....	.....	*280,650*
North Central Texas	*132,900*	.....	.....	*132,200*
East Central Texas	*84,750*	.....	.....	*85,250*
Texas Panhandle	*86,200*	.....	.....	*85,300*
Texas Gulf Coast	*415,200*	.....	.....	*416,250*
Southwest Texas	*94,550*	.....	.....	*97,200*
Total United States	4,062,735	3,960,000	.....	4,027,650

Total production, Jan. 1-Sept. 20 ..... 979,460,140 bbl.
Same period last year ..... 977,509,547 bbl.



Vast Oil-Traffic Changes Adopted to Supply East

By H. STANLEY NORMAN

Rail movement of crude and products from producing and refining centers of the Middle West and Southwest to the East Coast now totals between 50,000 and 100,000 bbl. daily. Transportation by rail is costing the industry from double to three times the pipe-line and tanker charges.

THE most abrupt and extensive revolution in petroleum transportation since construction of the first pipe line in Pennsylvania is costing the oil industry literally thousands of dollars a day without compensating higher product prices in the affected areas.

Extensive realignment of the petroleum industry's transportation facilities is being forced by diversion of approximately 80 tankers from United States service to Great Britain. The industry is not certain that more tankers will not be requisitioned and consequently there is no assurance that emergency measures now instituted and contemplated will be sufficient to relieve the East Coast supply situation. The industry, however, is exploring every possible channel of transportation relief and is juggling practices and facilities with matters of cost relegated to secondary consideration.

Indications are that railroads are currently moving approximately 50,000 to 60,000 bbl. of crude daily to the Atlantic seaboard that previously was transported by coastwise tankers. This figure does not by any means represent the total movement by rails and inland waterways forced on the industry by transfer of tankers. Several companies are moving products to Ohio River terminals and serving a much broader territory from those points than in the period previous to the tanker diversion. Barges and Great Lakes tankers have been shuffled in several cases to increase deliveries of interior crude and products to the East Coast and replacing these inland transportation facilities with tank-car movement on short hauls.

Rates Issued on Demand

Emergency rail rates on tank-car shipments of crude oil have been instituted in practically all parts of the middle and eastern states where sufficient traffic has been developed to warrant this concession by railroads. Some of the new rail rates are less than ⅓ of those previously prevailing. Representative rates in the general move of railroads to lower the overland transportation costs during the emergency are published in an accompanying table which was prepared from data submitted by J. J. Pelley, president of the Association of American Railroads, testifying before the Senate committee investigating the East Coast petroleum shortage. Even with the substantial reduction in tank-car rates for crude oil, the cost of moving petroleum by rail is approximately 50 per cent greater than by pipe line and nearly three times the current tanker charges. The reduced tank-car freight rates of $1.27 per barrel from Singer, La., and $1.37 from Kinsloe, Tex., to eastern refineries in New Jersey and Pennsylvania may be compared for practical purposes to the 67.5-cent pipe-line tariff prevailing from the East Texas field to Bayway, N. J., and to the tanker rate of 50 to 57 cents per barrel from the Gulf to East Coast.

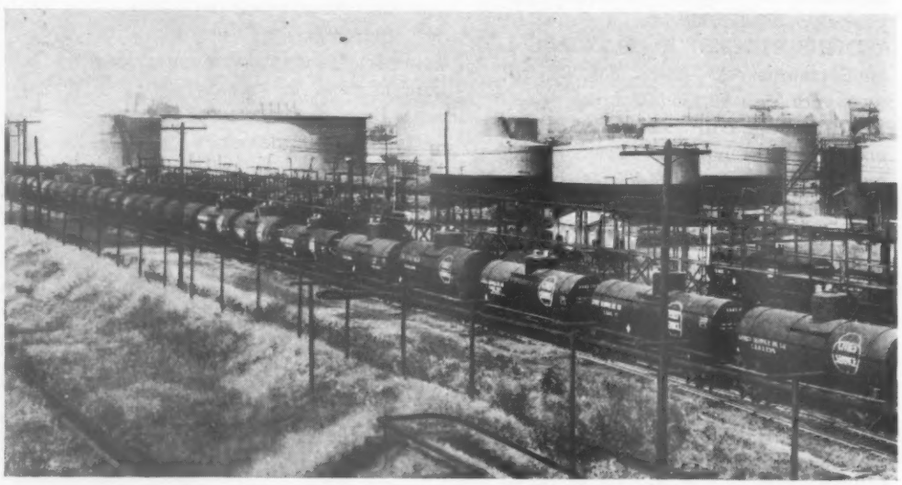
At the time of the Senate hearing earlier this month, Standard Oil Co. of New Jersey advised Ralph K. Davies, deputy petroleum coordinator, that it was loading approximately 17,000 bbl. of crude daily at Martinsville, Ill., and Lima, Ohio for delivery by tank cars to its Bayway, N. J., refinery. The company is now moving about 36,000 bbl. of crude daily by tank car to eastern refineries. Martinsville, Ill., is the shipping point for 27,000 bbl. daily; 5,000 bbl. originates at southeastern Illinois rail points and 4,000 bbl. from Owensboro, Ky.

Atlantic Refining Co. and Cities Service Oil Co. (Pennsylvania) recently started tank-car movement of crude to Philadelphia and Petty's Island, Pa., and East Braintree, Mass. Atlantic contemplates movement of 10,000 bbl. of crude daily by railroad from Benton, Ill., to its Point Breeze refinery, near Philadelphia.

Rail Movement Expands

Cities Service is arranging for rail movement of 6,000 bbl. of crude daily to its East Coast refineries. The Petty's Island plant will receive 4,000 bbl. of the total and 2,000 bbl. will be discharged at the East Braintree, Mass., plant. Furthermore, the company is moving refined products by railroad from its East Chicago plant. Approximately 10,000 bbl. of kerosene reached the East Coast last week under this arrangement.

Sinclair Refining Co. is moving approximately 4,000 bbl. of Illinois crude to Ravenna, Ohio, where it is transferred from pipe line to tank cars and shipped via rail to the company's Marcus Hook, Pa., refinery. Plans have been perfected for shipment of 2,000 bbl. of Tinsley field, Mississippi, crude by tank cars direct to the Marcus Hook refinery. Rates of 96 cents and $1.05 per barrel, depending on weight, have been arranged for the long haul from Mississippi to Pennsylvania. The company is using trucks in moving 1,400 bbl. of Illinois crude from Olean, N. Y., to its Wellsville, N. Y., refinery.



Tank cars arriving at a Cities Service eastern refinery inaugurating rail movement of Illinois crude on this route

Socony-Vacuum Oil Co., Inc., is supplying about 6,000 bbl. of crude daily to its Brooklyn, N. Y., refinery in barges loading at Buffalo, N. Y., and moving east and south through the Erie Canal and the Hudson River. By raising sea speeds of tankers, lifting load lines, increasing the size of loading and discharge hose and other means, John A. Brown, president of Socony-Vacuum, estimates that the company has offset the tanker shortage to the extent of about 15,500 bbl. daily. Other plans are under way which will provide between 11,000 and 16,000 bbl. daily of additional relief for the East Coast situation.

Typical of the rearrangements of distribution patterns which are aiding in solving the transportation problem are actions by Shell Oil Co., Inc., Texas Co., and Pan American Petroleum & Transport Co.

Pan American has eliminated direct tanker

voyages to Albany, N. Y., and is now barging from New York storage to supply northern New York and Erie Canal terminals. In lieu of transportation by tanker to Philadelphia, thence by gasoline pipe line, Pan American is moving large quantities by barge from Texas City, Tex., up the Mississippi and Ohio rivers to Charleston, W. Va., and Pittsburgh, Pa. The volume of this movement has increased from 35,000 bbl. monthly July 1 to 77,000 bbl. and a further increase to 100,000 bbl. monthly is contemplated.

Shell is making tank-car shipments from its Houston, Tex., refinery to as far north as Minneapolis, Minn., and is making barge delivery from New Orleans, La., to its Wood River, Ill., refinery and to Ohio River points. Products previously moved from Wood River to Mid-Continent points by pipe line are now shipped by tank cars. Changes have made greater capacity available in Shell product lines to Chicago, Toledo, and Columbus, Ohio, and these points are being used as distributing centers for expanded territories, including several points that were previously supplied by shipments inland from the East Coast.

Distribution Routes Changing

Since the transportation emergency arose, all of Texas Co.'s New York State demand west of Utica has been supplied from the Lockport, Ill., refinery by water movements on the Great Lakes to Buffalo and from there by barge through the Erie Canal as far east as Utica, N. Y. To make this movement possible, the company's Great Lakes marine equipment was diverted to Buffalo, which makes necessary shipments by tank cars from Lockport refinery to the lower peninsula of Michigan and northern Ohio points previously supplied through water terminals at Grand Haven, Bay City, and Detroit, Mich., and Cleveland, Ohio. Arrangements have been made to make barge delivery of gasoline from Texas Co.'s Lawrenceville, Ill., refinery to western Pennsylvania, replacing products previously moved inland from the eastern seaboard. The company has discontinued Tennessee River deliveries from Lawrenceville to Tennessee and northern Alabama and these areas are being supplied by railroad tank cars from Gulf Coast terminals that, in turn, are fed with products by large deliveries from Texas.

At least part of the petroleum traffic now moving over the Hudson, Ohio, and Mississippi rivers and through the Great Lakes will be forced over the railroads during winter months when ice prevents navigation on these waters. Normally, oil companies are able to move sufficient products to storage along the northern streams during the summer months to supply demand through the winter. This summer has been an exception largely because tankers were not available for the primary haul from the Gulf Coast to North Atlantic terminals.

One Eastern Line Reversed

Reversal of the Tuscorora line, permitting movement of approximately 25,000 bbl. of crude daily from Midland, Pa., on the Ohio River, to Bayway, N. J., will involve barge movement of Texas, Louisiana, and New Mexico oil up the Mississippi and Ohio rivers to the eastern terminal.

Coordinator Ickes has urged operators of other eastern pipe lines moving products from the East Coast to inland territories to consider possibilities of reversing the flow. He was quoted as saying that if operators moving oil from east to west did not cooperate voluntarily in a reasonable time that they would be compelled to take such action.

Sale of approximately 400,000 bbl. of gasoline to be moved by tank car to eastern points was reported made by one of the larger companies in the Houston-Texas City, Tex., district at the opening of the week. The material, it was said, will be moved over the next several weeks. Movement by tank car is steadily increasing in volume, and it is reported that increasing inquiries are being circulated for material to be moved in this way.

Expense of using the emergency transportation methods, particularly by rail, indicates that the industry must pass on the higher costs to the consumer of petroleum products. Prices have held relatively static during the period of adjusting transportation possibly because of the earlier prospects that the national-defense crude-oil line would be authorized. Since SPAB's second refusal to grant priority on steel necessary for the line, the oil industry faces compulsion to use emergency transportation facilities for an indefinite period.

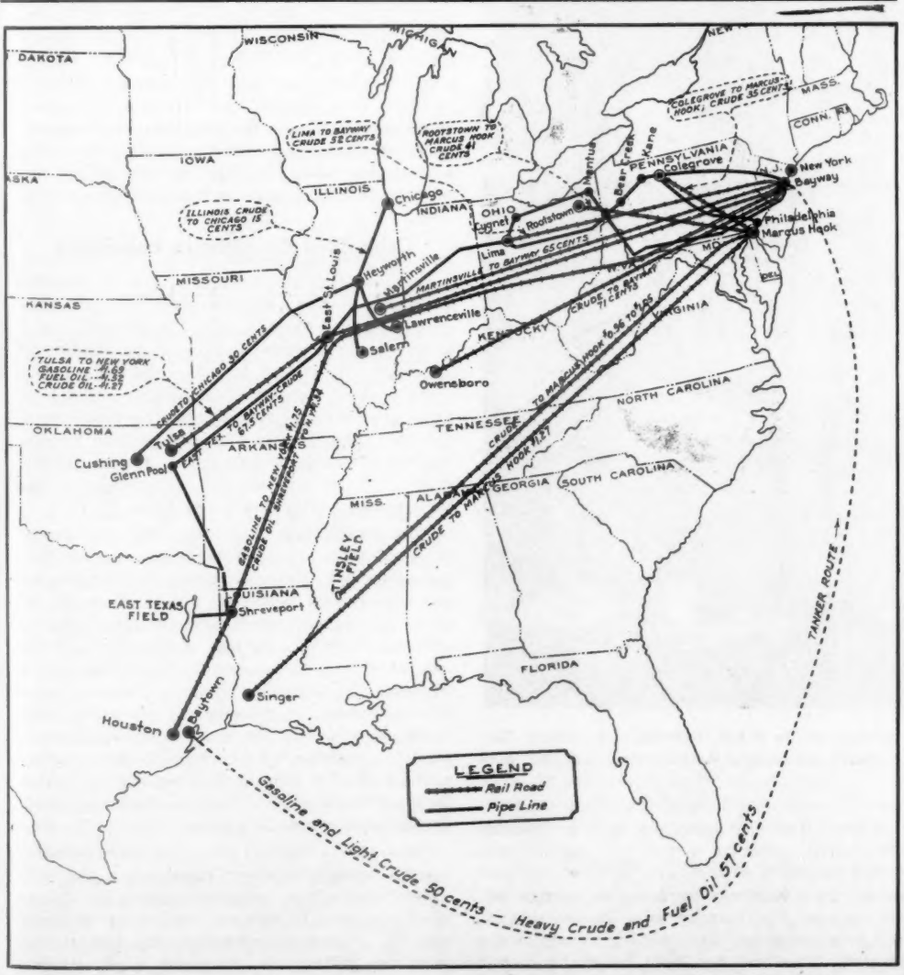
Admiral Emory S. Land, chairman of the Maritime Commission in Washington, D. C., believes that at least 25 of the 87 tankers now contracted by his bureau will be available next April. Also, private interests have a total of 61 tankers under construction or contract. During 1942 and 1943 there will be an estimated total of 132 tankers completed in shipyards of this country, including those for account of the Maritime Commission and private interests.

Tanker operators and oil companies dependent on marine transportation for supplying the East Coast petroleum demand could look forward to complete relief from current shortages within 6 or 7 months if it was not for the possibility that other tankers will be diverted to British service. This uncertainty makes a definite program and appraisal of the petroleum-transportation requirements over a long range practically impossible.

TYPICAL EMERGENCY TANK-CAR RATES ON CRUDE OIL†

Destination—	Origin	Prior rate (cents/100 lb.)	Reduced rate (cents/100 lb.)	Reduced rate per barrel
Bayway, N. J.	Lima, Ohio	38	‡17.5	$0.54
Tremley, N. J.	Owensboro, Ky.	72	‡23	.71
	Martinsville, Ill.	45	‡21	.65
Marcus Hook, Pa.	Colegrove, Pa.	26	‡12	.37
	Rootstown, Ohio	31	‡14	.44
	Kinsloe, Tex.	65	‡44	1.37
	Singer, La.	65	‡41	1.27
	Tinsley, Miss.	43	*§34	1.05
	Tinsley, Miss.	43	†§31	.96
Philadelphia, Pa.	Kinsloe, Tex.	65	‡44	1.37
	Singer, La.	65	‡41	1.27
Petty's Island, N. J.	Kinsloe, Tex.	65	‡44	1.37
	Singer, La.	65	‡41	1.27

*Subject to minimum weight of 74,000 lb. ‡Rates already published.
†Subject to minimum weight of 59,200 lb. §Rates approved and awaiting publication.
†Data taken from the record on Senator Maloney's committee investigating East Coast petroleum shortage.



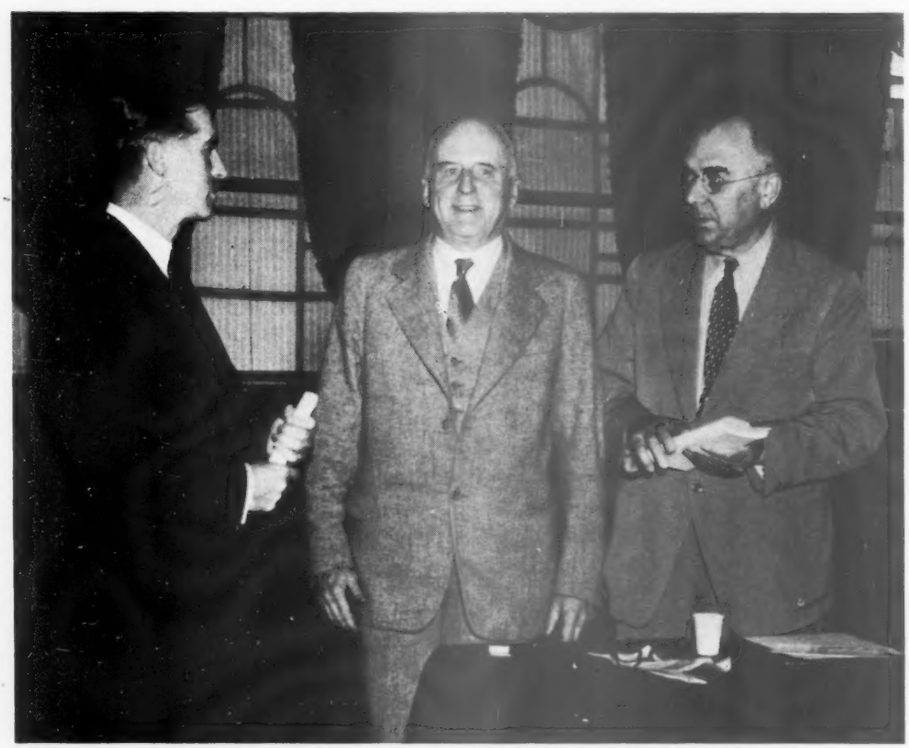
Showing a few representative rates by various means of transporting crude and products to the eastern consuming centers. Note the uniformly higher range of rail rates all of which shown here are the lower emergency tariffs published within the past 4 weeks

Industry Must Gear Operations To Still Greater War Needs

By J. P. O'DONNELL

ATLANTIC CITY, N. J., Sept. 23.—Extraordinary demands which oil is not immediately prepared to meet will be placed upon the industry as the United States speeds its program of all-out aid to the democracies and Russia. This conclusion was advanced by several speakers who addressed the thirty-ninth annual meeting of the National Petroleum Association here last week.

Most pressing of these demands is that for aviation gasoline of 100 octane or better since Russia's requirements have been added to the expanding needs of Great Britain and our own Army and Navy air forces. Almost as pressing is the demand for chemicals for high explosives and other essential war materials since these chemicals can be produced either in greater volume or more easily from petroleum. One probable result of the concentration on production of 100-octane gasoline will be a reduction in the quality of gasoline sold to the public caused by a lack of antiknock blending agents, it was predicted.



Deputy Coordinator Ralph K. Davies, one of the principal speakers at the N.P.A. convention in Atlantic City, with Fayette B. Dow, association general counsel, and N. H. Weber, president of the association, and vice president of Pure Oil Co.

The keynote of the entire program was sounded by Deputy Petroleum Coordinator Ralph K. Davies, when he said, "Today it would be a bold man, indeed, who would forecast that the end of the demands to be placed on the petroleum industry of the United States was anywhere near in sight." He added that "one must be a still bolder prophet to foretell exactly what must be done to cope successfully with the two problems of increasing demand for petroleum products and decreasing supplies of materials to produce those products."

Coordination of priorities is the best means of attaining this end, Mr. Davies said, and he stressed that it is particularly important in refining. "For we may as well all recognize that despite our hopes to the contrary, the total effective refining capacity of this nation is now crowded almost to the limit. Such excess capacity as statistics may show exists is statistical only since it consists for the most part of a few obsolete skimming plants which would require time and materials to place again on stream and which would not make the products we most need after they had been put into production.

"Similarly, although it was thought we had enough 100-octane capacity, the demands for this product have suddenly increased so enormously that we now find that we must double this capacity without delay. The refining branch of the industry, therefore, has been asked to submit plans for increasing aviation-refining capacities while we in the coordinator's office press for materials and supplies for this construction, arrange for plant loans for building and contracts for the products to be manufactured."

Mr. Davies took the industry to task for its failure to explain the East Coast shortage to the public. "Naturally the abundance or the lack of petroleum has tremendous repercussions in public opinion. You could hardly be unaware of the agitation that has occurred in connection with the supply situation. Yet in the midst of all this the industry has been almost completely silent . . . There is a great deal at stake for the industry in the situation today. . . . It would seem to me, in the circumstances, that a little more vocal participation and a little less profound silence would go a long way toward enlisting public support and dissipating distrust and suspicion."

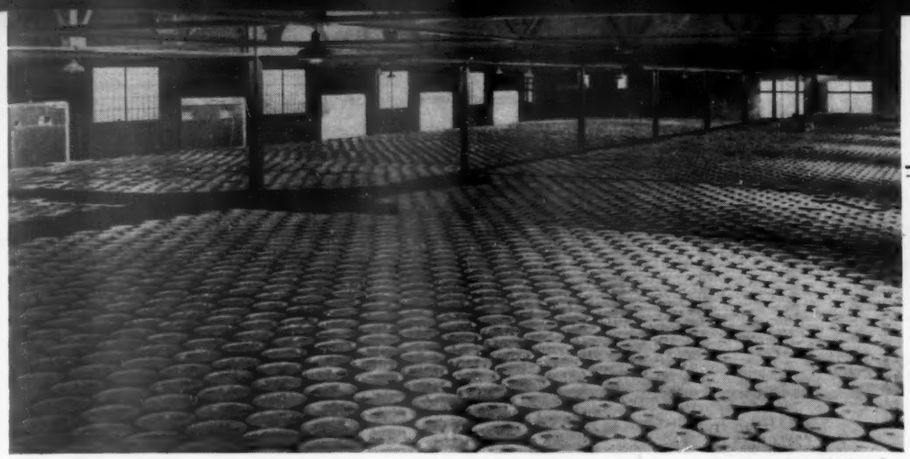
Present restrictions upon gasoline sales will be continued, Mr. Davies said. "With supply, demand and transportation facts as they are today, it is obvious that we must protect against an uncertain future. That is why it is so essential that until we are actually moving enough oil to the East Coast to commence filling up our storage tanks at a rate fast enough to meet any reasonable eventuality, we must not suppose ourselves to be on safe ground." In a review of achievements given early in his talk, the deputy coordinator said that "more than one-half of the original transportation deficiency of over 350,000 bbl. per day has been made up."

Centralized Coordination Imperative

The industry could not continue to function effectively during this emergency without some centralized coordination, Mr. Davies said. "If it could not be accomplished by a coordination of effort on the part of industry and the Government working together as a team, it would have to be attempted by legislation. The problems of defense cannot be met without provision for centralized planning and direction in the national interest. I am sure the industry recognizes the inevitability and soundness of this.

"The organization of industry and government in this defense undertaking in oil presents both an opportunity and a challenge to everyone engaged in the oil business. It is a challenge because it is probably the most difficult task ever undertaken by this industry despite its long history of doing the apparently impossible. It is an opportunity because it opens the way for a great industry to demonstrate by actual performance, which is the only thing that counts, that it is possible for Government and business, working side by side, to do a defense job within the framework of the economic structure which the industry prizes so highly."

Petroleum as a source of chemicals essential to modern warfare, aviation gasoline and the Axis powers' oil position were discussed by Dr. Gustav Egloff, director of research, Universal Oil Products Co. Among the chemicals obtainable from petroleum which he discussed were toluene, nitric acid, ammonia nitrate, synthetic glycerin, phenol, picric acid, formaldehyde, methanol, various other alcohols, etc. To show the better char-



Press Association, Inc.

Early last week, 28,000 55-gal. drums of aviation gasoline lay on a pier at Los Angeles, awaiting shipment by freighter to Vladivostok, Russia. Needs of the U.S.S.R. for 100-octane gasoline have been added to those of England that the United States is being looked to to supply

This Week...

Highest demand for domestic crude oil in the history of the industry—4,012,900 bbl. daily—forecast by Bureau of Mines for October. Last week, the industry grabbed the ball and went to a new production peak of its own—4,062,735 bbl. daily.

●

Pipe-line proration is threatened in California. Refiners' stocks are bulging. Reason: Discontinuation of shipments to Japan. Pooling of Pacific Coast oil transportation facilities without regard to ownership urged by OPC.

●

Necessity for 100 per cent reports on equipment needs from the industry's operating units is growing more apparent. District committees are assembling the information for transmittal to Washington, D. C.

●

Crude-oil movement by railroad tank cars from producing areas of the Middle West to the eastern seaboard now averages 50,000 to 60,000 bbl. daily. Rates, emergency ones though they may be, are two or three times above pipe-line and tanker charges.

●

The new Illinois oil production-tax law is under court attack. An injunction prevents distribution of tax funds paid under protest until suits are adjudicated.

●

Indictment was returned against the industry by Ralph K. Davies, deputy petroleum coordinator, who thinks there should have been organized support of the OPC contention that there is a petroleum shortage on the East Coast.

●

N.P.A. members at Atlantic City, N. J., heard W. W. Gary, the petroleum coordinator's director of refining, and Deputy Coordinator Davies repeat the plea for 100 per cent increase in 100-octane producing capacity. Priority picture for nondefense-plant expansion is unattractive.

●

Houston area refiners sold 400,000 bbl. of gasoline for tank-car movement to the East. Cost to shipper, if New York is destination, 4.2 cents per gallon.

●

Products and facilities of the oil industry escaped higher special levies in the new Federal Revenue Act. Even the depletion allowance was unmolested.

●

East Texas enters its twelfth productive year next month. Still has 4 to 5 billion barrels of recoverable oil, the world's largest reserve, despite accumulative yield of 1.7 billion barrels.

●

Reversal of other east-to-west product lines, similar to action already taken by Tuscarora, is an immediate objective of the petroleum coordinator.

●

Friction among litigants has delayed acceptance of the consent decree in the Elkins pipe-line suits.

●

Desire of Texas oil purchasers for selective types of crude again has arisen to plague the commission. Low cold-test and high-octane crudes are sought.

●

Investigators unearthed new evidence of proration violations in Kansas. Expect to find more.

●

District 1 transportation committee's report on tank cars, said to show an insufficiency of equipment for the eastern coast winter oil requirements, remains in the coordinator's desk.

●

Doubt that the industry can materially increase its refinery runs without plant expansion is growing in official quarters. OPC is now surveying this question.

acteristics of petroleum as a source for some of these chemicals, Dr. Egloff cited toluene, only 4 lb. of which can be obtained from a ton of coal against from 200 to 1,500 lb. from a selected petroleum fraction. He also spoke of an indicated shortage in ethyl alcohol which, however, can be obtained in any quantity desired from the ethylene in cracked gases.

"If it wasn't for oil research, we wouldn't be able to fight the war," Dr. Egloff said in his extemporaneous talk. The vastly increased demand for toluene, for example, must be supplied almost entirely from petroleum. The oil industry can provide the raw material and the processes, he said, but the erection of plants requires time. He mentioned several construction projects which have not been publicized including a large plant for the production of nitric acid, which, with the addition of ammonia, makes a high explosive relatively safe to handle. Some of the new processes which the industry has developed to aid in this emergency process Pacific Coast crude fractions containing nitrate products having high-explosive characteristics.

Dr. Egloff saw impending shortages in plastics, such as bakelite, in methanol, used largely in antifreeze, and in ethyl alcohol, base material for tetraethyl lead, the existing sources of which may have to be augmented by petroleum. He expressed the belief that the synthetic-rubber program was inadequate with only 12 per cent of our requirements to be so supplied. He said that at least three processes will produce rubber at a reasonable price and that for the expenditure of $500,000,000 we could be assured of a supply of 1,000,000 tons.

Use of 100-octane gasoline was credited by the speaker as the reason for the superiority of the R.A.F. over the Luftwaffe since it enabled British planes to fly faster and higher. The United States is amply supplied with material for making 100-octane gasoline and whereas today we are producing from 40,000 to 45,000 bbl. per day we will be producing 100,000 bbl. per day by June 1942. Dr. Egloff said that while two German planes which landed in England had been supplied with 100-octane gasoline, obtained possibly by blending, much of the Nazis' aviation fuel consisted of 65, 75 and 87-octane material. He also observed that the Axis powers have but 5 per cent of the world's oil supply at their command and are now using oil at the rate of 220,000,000 bbl. per year while they have a supply of only 100,000,000 bbl. annually.

Dunkirk Wakened Britain

It took Dunkirk to jar the British people out of their complacency, Lord Marley, representing the British Purchasing Commission, said. In the following desperate 100 days they armed and equipped an army of 1,500,000 men by increasing working hours from 42 to 80, 90 and even 100 hours a week. Since then they have added to their security by separating armament plants, enforced necessary production by buying recalcitrant firms and limited output by closing competitive plants and dividing the profits. These steps, he said, have been so successful that British production now is at the highest rate in history. Taxes are extremely heavy, but living costs have been kept down by the subsidizing of necessities. These costs have risen about 27 per cent but actual wage-rate increases of 30 per cent have offset them. The British are united and determined, Lord Marley said, because "we feel we are all in the same boat."

Paul Wooton, Washington correspondent for the McGraw-Hill publications, said that many people in Washington believed that the war would be over by the fall of 1942 and that all were confident that the democracies would win. Among his other observations were: Britain will have air supremacy except over Germany itself by December; German transport is in a bad way and she must extend railroads into Russia due to lack of petroleum; even if the Nazis gain the Ukraine, lack of transport will prevent its exploitation; German production is on the decline while the democracies, backed by the United States, are on the increase; Hitler has stopped predicting the end of the war; Germany lost the war by failing to seize the advantage she won

(Continued on Page 114)

PRIORITIES.

Answers to a few of the most pertinent questions asked about procurement of petroleum equipment

This is the third of a special-service series dealing with the answers to priority questions raised by operators in all branches of the petroleum and natural-gas industries and manufacturers and suppliers of materials and equipment.

The Oil and Gas Journal has made arrangements to secure authoritative answers to questions arising in the collective mind of the industry on priority control of oil and gas operating equipment. Questions are invited and should be addressed to The Oil and Gas Journal, Priorities Question Department, P. O. Box 1260, Tulsa.

The first and second installments of this special service appeared on Page 13, September 11 and Page 63, September 18.

QUESTION: Can suppliers originate a priority rating of A-10 under provisions of Order P-22?—J. W. T.

ANSWER: Under Order P-22 a supplier cannot "originate" a priority rating, but if he gets an order from an oil company properly endorsed as provided in P-22 the supplier can in turn obtain a priority rating of A-10 for materials needed to fill such an order by making the specified endorsement on his own orders to producers of materials.

QUESTION: Isn't A-10 too far down the list in priority ratings to be of any practical value to the oil industry in getting supplies it needs for maintenance and repair under Order P-22?—M. T. W.

ANSWER: It is hoped A-10 is high enough for most purposes. This will vary with the material needed. In emergencies a higher rating for repair can be obtained through use of Form PD-1. Preference ratings are: AA A-1-a, A-1-b, A-1-c, A-1-d, A-1-e, A-1-f, A-1-g, A-1-h, A-1-i, A-1-j, A-2, A-3, A-4, A-5, A-6, A-7, A-8, A-9, A-10, B-1, B-2, B-3, B-4, B-5, B-6, B-7, B-8.

QUESTION: Can we be assured of priority status to secure materials for manufacture of oil-field equipment for the Argentine Government? What, if any, priority can be had for limited amounts of oil-field maintenance parts?—O. P. J.

ANSWER: A manufacturer can get no assurance of priority status for oil-field equipment to be exported. However, the Argentine Government may be able to obtain both an export license and a priority rating by working through the State Department and the Economic Defense Board. The same answer applies to supplies for maintenance and repair of foreign equipment; P-22 applies only to domestic industries.

QUESTION: What, other than the defense-supplies rating plan, is being worked out to solve the problem of the manufacturer working on hundreds of defense contracts constituting practically all of its output when such manufacturer has 500 or 600 suppliers all of whom are clamoring for preference-rating certificates?—H. D. K.

ANSWER: Nothing else. The Defense Supplies Rating Plan is designed to take care of just such situations. If a manufacturer is working on genuine defense contracts using all his capacity there is no way for him to serve non-defense customers. However, if a customer obtains a project rating, he may be able to obtain a priority rating higher than those borne by the manufacturer's defense orders, in which case the manufacturer could fill the order.

QUESTION: Why is there such an acute shortage of phosphate chemicals even though phosphates may be on Government priority lists?—J. P. C.

ANSWER: Question is not clear. Most all chemicals are becoming scarce because of increased activity in chemical-process industries and defense needs. The fact that a chemical has been placed under priority control is in itself evidence of a shortage.

QUESTION: An oil company orders an assembly from a manufacturer. One part of assembly is made of stainless steel and priority certificate is necessary. What form is to be used? Does the oil company or the manufacturer execute the form?—W. O.

ANSWER: The manufacturer uses Form PD-1 to obtain stainless steel.

QUESTION: Do service companies such as gun-perforating companies qualify under terms of Order P-22? Their services are used almost entirely by the production division of the oil industry but it would be difficult to class them as suppliers, the inquirer writes.—R. W. K.

ANSWER: Gun-perforating companies engaged in servicing oil wells are considered to be engaged in petroleum production, and can use P-22 procedure to extent necessary to get repair parts for equipment in service.

QUESTION: What procedure should be followed to obtain priority rating for oil-well drilling equipment used for "tailing in" after rotary or for cleaning out and deepening and servicing work?—L. R. B.

ANSWER: If a new unit is required, application must be made on PD-1, and since this is not extendable, the application should be made by the equipment maker, accompanied by a letter from the prospective user explaining the intended purpose. If repair parts are needed for existing units, the user may obtain an A-10 rating under the procedure of P-22, but P-22 may not be used for new capital expenditures.

QUESTION: Our business is devoted exclusively to the oil industry, 90 per cent being for repair and maintenance for production refining and pipe-line equipment. Do we qualify for A-10?—R. R. W.

ANSWER: An A-10 priority rating applies to that portion of the business on which oil companies certify that their orders comply with the requirements of P-22.

QUESTION: Is the interpretation correct that equipment for drilling new wells in both proven territory and undeveloped areas qualifies for an A-10 priority rating under construction of Order P-22?—A. R.

ANSWER: New drilling equipment cannot be obtained under P-22. Individual application on PD-1 is necessary. Parts for maintenance and repair of drilling equipment already in use or on hand can be obtained under P-22, regardless of whether the well is in proven territory or undeveloped areas.

QUESTION: Please give me the specific steps essential to the fabrication of oil-field equipment ordered by one of the private oil companies operating in South America.—F. O. P.

ANSWER: This appears to be a question on manufacturing technology. After such equipment is fabricated, however, a license must be obtained to export it.

QUESTION: Let us assume that our company is operating under the Defense Supplies Rating Plan, and in the course of a 30-day period our total business is represented by 100 orders from as many different customers, each calling for one of our machines and each accompanied by a Ford PD-25C, properly executed and stating that say 60 per cent of each of our customer's sales constituted defense supplies. If we should be fortunate enough to be able to fill these orders out of inventory, we would be able to replace only 60 per cent of the scarce materials required to build these machines. If we have no inventory, and have to buy materials after receipt of these customers' orders, we still could extend our Defense Supplies Rating Plan rating of A-10 to our suppliers for only 60 per cent of the material required to build these 100 machines. Obviously, we can't furnish each of our customers with 60 per cent of the one machine he has ordered. We are at a loss to know how to handle orders from firms accompanied by a Form PD-25C made out for anything less than 100 per cent requirements for defense supplies.—T. S. T.

ANSWER: Question is too hypothetical for a complete answer. If a supplier has qualified to obtain use of the Defense Supplies Rating Plan and obtains an order for equipment to be used 60 per cent in filling defense contracts, the supplier obviously must fill the order 100 per cent, and therefore can replace his inventory 100 per cent.

QUESTION: Will you kindly tell us to whom and in what manner we should apply for an increased allowable of CCH Bleaching Powder for the sweetening of our natural gasoline?—S. B.

ANSWER: Chlorine is under full priority control. Users of chemical compounds made from chlorine should apply for priorities on Form PD-1, sending it to attention of the chemical branch of OPM.

Oil Men Warned to Survey Equipment Needs Promptly

ORGANIZATIONS and informal groups in all segments of the petroleum industry devoted undivided attention this week to the intricacies of the priority control of materials which daily is presenting new and ramified problems. The choke on materials is becoming more stifling from day to day as equipment in the hands of the industry that could be distributed without restraint nears the exhaustion point.

Tacit confirmation was given late last week that control of essential operating materials will be one medium through which the petroleum coordinator will exercise jurisdiction over the industry. This was given in an address by E. O. Buck, Houston, Tex., deputy district director of production in District 3, who said the oil industry will be expected to produce 10 per cent more crude in 1942 with a 30 per cent reduction in steel materials. He spoke before a meeting in Houston. Mr. Buck, elaborating on the general hypothesis expressed for 1942 operations, listed three vital steps necessary, in his opinion, for the industry to take in assuring it of even the 70 per cent of normal materials. He listed these steps as follows:

Wildcat Exploration Needed

First, that supplies must be kept on hand for maintenance of marginal and submarginal wells, which represent approximately one-third of the nation's production, according to a survey now being conducted. If the equipment is not available when needed, much of these oil reserves will be prematurely abandoned and forever lost to the industry.

Second, exploratory or wildcat development must be stimulated to a point that when this emergency is over, new discoveries will offset the extraordinary production from the present producing wells.

Third, there must be orderly development of the present proven but undeveloped reserves and newly discovered fields so that production rates can be maintained on an efficient conservation production without waste with a minimum number of wells.

Meanwhile, there were a few clarifying statements issued from the Priorities Division of OPM at Washington on at least two of the points that have been confusing the industry since Order P-22 was issued, extending a priority rating of A-10 to the petroleum industry for maintenance and repair materials.

A supply company cannot originate a P-22 order, according to a ruling from Washington, D. C., but must have a supporting statement from the consumer that materials ordered are necessary for immediate or impending repair and maintenance service. This interpretation of the order would virtually eliminate supply companies from functioning as warehouses, a practice that has been developed over a long period of operations. Materials needed for repair and maintenance inventory may be quite extensive in the case of large operators but the independent with only a few wells has grown to depend almost entirely on the supply stores for his equipment as needed. Practices of large oil companies have varied. Some have maintained well-stocked warehouses at all central operating points while others have depended, like the majority of independents, on supply stores for their emergency equipment needs and, for that matter, their routine requirements as well.

Pattern Forming on Reports

Efforts of the industry to present a concrete report on their equipment requirements are beginning to take pattern. This procedure was first recommended by Robert E. Allen, director of production for OPC, when he met with equipment men at Fort Worth, Tex., last month and was repeated by Mr. Buck. Both warned that unless the petroleum industry makes a strong representation on its equipment requirements there is danger that other industries related to defense will capture more than their tentative share and the oil business forced to operate with less.

District committees composed of oil men appointed to advise with and make recommendations to the petroleum coordinator are attempting to canvass the equipment needs. An extensive framework of subcommittees has been created in District 2 for this purpose and similar surveys are being conducted in the other four districts.

A spokesman for District 4 reported this week that fewer than 60 producers out of a total of 260 in Montana had made a report on their equipment requirements.

Lack of expression from the operators in all districts and in all branches of the industry on their equipment needs is one of the largest problems faced by the committees. Chairmen of most district committees, a list of which was published in the July 17 issue of The Oil and Gas Journal, are inviting declarations from operators in their respective branches of the industry on their equipment requirements. Later, this information will be correlated and dispatched to the petroleum coordinator's office which will act as liaison agent between the industry and OPM's Priorities Division.

Order M-21 Amended

Amendments made last week to General Preference Order M-21 serves to clear up some of the confusion regarding who is to execute Form PD-73 for procurement of steel. Amendments follow:

(*a*) Paragraph (*b*)(13)(i) of Section 962.1 (General Preference Order M-21) is hereby amended to read as follows:

"No producer of steel shall make, and no person shall accept from a producer, delivery of steel unless and until a statement on Form PD-73 or in such other form as may from time to time be prescribed by the director of priorities has been filed as follows:

"(*a*) Except as hereinafter provided, each purchaser shall file Form PD-73 with the producer at the time of filing his purchase order or contract.

"(*b*) On orders placed prior to September 1, 1941, with deliveries to be made after September 1, 1941, Form PD-73 shall be filed with the producer on or before October 15, 1941.

"(*c*) On all export sales as defined in Group E of Form PD-73, Form PD-73 shall be filed not only with the producer but also with the iron and steel branch, OPM.

"(*d*) On all export sales as defined in Group E of Form PD-73 (except sales to purchasers in the Dominion of Canada) where orders are placed prior to December 1, 1941, Form PD-73 may be filed by the accredited agent or export division of the producer in the United States.

"(*e*) When steel is shipped by a producer direct to the customer of a warehouse, Form PD-73 is to be filed with the producer by the customer and not by the warehouse.

"(*f*) When the purchaser is the War Department or Navy Department, or a warehouse, the purchaser may report on a single Form PD-73 all orders in a single group classification placed during a single month. In such case each Form PD-73 must be filed with the producer on or before the 5th day of the following month."

(*b*) This amendment shall take effect immediately. (P. D. Reg. 1, Aug. 27, 1941, 6 F.R. 4489; OPM Reg. 3, March 6, 1941, 6 F.R. 1596; E.O. 8629, Jan. 7, 1941, 6 F.R. 191; E.O. 8675, Aug. 28, 1941, 6 F.R. 4483; Sec. 2(a), Public 671, 76th Cong., 3d

(Continued on Page 34)

LEAVE FOR WASHINGTON . . .

GUY A. TOMPSON

W. L. JAMES

W. L. James, purchasing agent for Stanolind Oil & Gas Co., and Guy A. Tompson, president of Bethlehem Supply Co., both of Tulsa, left the Mid-Continent this week to accept special assignments in Washington, D. C., in the department of Douglas Mackeachie, director of purchases for OPM.

Neither of the two oil men was advised specifically on his Washington duties. Mr. Tompson, however, understood that he was to be principal adviser to Mr. Mackeachie in the office of procurement which is being established to purchase materials for the United States defense program, particularly for the armed services.

Mr. James, it was understood, would also work in Mr. Mackeachie's department in an advisory capacity.

Donald G. Clark, director of purchases, Gulf Oil Corp., and James MacPherson, former manager of purchases and stores of the Standard Oil Co. of California, are other buyers with oil-company training now functioning in government purchase work in Washington.

STATE CAPITALS...

OKLAHOMA

OPERATORS IN THE EAST CROMWELL extension area of southern Okfuskee County will be given an opportunity to discuss a controversial producing situation before the Corporation Commission September 26. Hearing will be held on that date in Oklahoma City on application filed by the Foundation Oil Co., Shell Oil Co., Inc., and C. W. Titus, operators in the area, and Earl Foster, conservation attorney.

The petition states there are nine producers in the area comprising the S½ 26-11-8 and part of N½ 35-11-8. Potentials of the wells range from 200-1,500 bbl. daily. The structure contains "a very decided gas cap," the petition asserts.

At the present time, an engineering committee, named by the conservation department, is making a study of production methods and reservoir conditions in the field. Present allowable is 300 bbl. per well daily, but there is an admitted waste of natural gas.

TEXAS

INCREASED ALLOWABLES, particularly for selective types of crude and for fields in North Texas, West Central Texas and the Panhandle, were urged by oil company representatives who appeared before the Railroad Commission's statewide proration hearing last week at Austin. Industry spokesmen suggested that the commission push the daily allowable as close to the recommendations of the Bureau of Mines as possible instead of holding it below the forecast of demand.

However, it was brought out at the hearing that even if the allowable were made the same as the Bureau of Mines estimate—1,420,000 bbl. daily, an increase of 41,500 bbl. over September—it would still fall short of the commission's tabulations of purchasing nominations in October which totaled 1,838,482 bbl. Nominations showed a gain of 20,692 bbl. over those made for the current month.

Largest gain in demand was declared by spokesmen for Humble Oil & Refining Co., Magnolia Petroleum Co. and Sun Oil Co. to be for low cold-test oil. Another South Texas company representative mentioned recommendations for increased yield of high-octane crude. Winter's approach was partly responsible for the asserted increase in demand for low cold-test crudes, while defense-industrial needs were strengthening the market for lubricants which these oils yield. Defense contracts were held largely responsible for the strong demand for high-octane, gasoline-yielding crudes.

An observer at the hearing, however, pointed out that if the purchasers were allowed to take these selective crudes, more than half of the market would be lost to a majority of the fields and Jerry Sadler, member of the commission, stated before the hearing ended that the commission was considering and would adopt, if legally possible, an order requiring local demand for crude be met before other requests were filled.

Rex Baker, attorney for Humble Oil & Refining Co., introduced figures to explain the situation. Recalling that a large portion of the demand under the lend-lease program had been allocated to the Texas Coast, he said the orders were not being filled.

Storage is steadily declining in the state, 3,078,000 bbl. having been withdrawn during the first 2 weeks of September (220,000 bbl. a day). It was also stated at the hearing that Texas production has dropped gradually so that the 1941 yield to date is 35.4 per cent of the nation's output compared to higher percentages in past years. This in spite of the fact that the state holds more than 50 per cent of the nation's known reserves.

The insistent demand for more crudes from North Texas, Panhandle and West Central Texas rises from increasing demands in the Mid-Continent which Oklahoma and Kansas are not fully prepared to meet—Oklahoma because it is producing at capacity, and Kansas because of limited pipe-line facilities.

The nominations included increases for all areas, except the Gulf Coast and East Central Texas. A reduction of 2,226 bbl. was made in the Gulf Coast and 819 bbl. in East Central Texas.

Largest increase was 7,417 bbl. in the East Texas field, followed by 3,641 bbl. in other East Texas fields.

The nominations:

District—	Nominations	Changes
1. Southwest	23,537	+42
2. Southwest	91,888	+2,837
3. Gulf Coast	332,084	—2,226
4. Southwest	204,081	+737
5. East Central	56,979	—819
6. East Texas (out.)	77,342	+3,641
7-B. West Central	31,348	+2,048
7-C. West Central	20,300	+410
8. West Texas	331,906	+2,721
9. North Texas	152,152	+2,338
10. Panhandle	105,559	+1,552

ILLINOIS

CHARGING DISCRIMINATION by arbitrary classification of property for the purpose of taxation, five oil companies and a number of individuals have filed a series of suits in Sangamon County Circuit Court in Springfield testing constitutionality of the state's newly enacted oil production-tax law.

Circuit Judge Lawrence E. Stone, of Springfield, granted temporary injunctions September 17 to Shell Oil Co., Inc., Texas Co. and Sohio Corp. to prevent the state from disposing of taxes paid by the firms under protest.

Together with other companies and individuals, the suits represent an effort to secure a refund of more than $250,000 in taxes paid since the law went into effect July 1.

On September 18 Adams Oil & Gas Co. and the Felmont Corp. filed joint actions, and Hattie and A. W. Gerson, owners of oil property holdings near Centralia, followed with similar petitions to test validity of the act. Attorneys representing principal firms operating in the Illinois basin predicted more than 50 suits will be filed in order to force an immediate court decision on the law.

Defendants are Warren Wright, state treasurer, and George B. McKibbin, finance director. The new measure, which was slated to yield approximately $3,500,000 as part of the current budget program of Gov. Dwight H. Green, actually will return more than $4,500,000 annually on the basis of recently increased daily production of Illinois fields. If the law is held invalid the action will tend to upset the newly devised state revenue plan.

The newly created tax agency is part of the state Finance Department, and has no connection with the Oil and Gas Division of the state Department of Mines and Minerals. The latter was created at the recent legislative session to administer provisions of a compromise oil-control bill.

Plaintiffs in the tax suits also contend the law is invalid because it does not contain a provision authorizing determination of tax values by proper officials so designated by the legislature. The suits charge the tax rate has not been fixed on a basis equal to that of other classes of property.

Texas Co. attorneys objected because the firm is required to pay a tax on oil owned by Shell and delivered to their company, and also on oil produced from leases in the State of Texas in which Shell has a royalty interest. Sohio Co. based its action on similar grounds, and objected particularly to the provision of the law which requires any person with a royalty interest to pay the tax.

The Gersons, along with a number of other owners of producing properties, claim the law is unconstitutional because of "unreasonable" classification of persons subject to the tax. The bulk of oil produced by wells owned by the Gersons in the Centralia field is sold to Sohio Corp., and the latter firm has been deducting the amount of the tax due from the purchase price since the law became effective on July 1.

KANSAS

INVESTIGATIONS OF ILLEGAL OIL production, which so far have resulted in six arrests, continued last week. J. G. Somers of Newton, former district judge, who is aiding in the investigation, said 16 other operators were being checked. Although it is difficult to trace the "hot oil" operator, Mr. Somers said investigators for the state Bureau of Investigation and the United States Department of Interior have turned up sufficient evidence to indicate widespread illegal operations.

He said traces of illegal transactions were so well covered that he had worked 4 or 5 weeks on a single case. Auditors of the Corporation Commission also are at work on the investigation. To date investigations have been in McPherson, Barton, Russell, Rice, Stafford and Rooks counties.

MICHIGAN

SEPTEMBER ALLOWABLE for the Reed City field, Michigan, exclusive of wells completed after September 9, was set by the state Department of Conservation at 365,151 bbl. The figure represents allowables on 27 producers with over or under runs included. Production in August, the department reported, was 243,323 bbl., an overproduction of 8,769 bbl. as against the allowable of 238,821 bbl. for that month. There were only 9,047 bbl. in field storage at the end of August. In July, the field produced only 88,580 bbl.

the OIL AND GAS JOURNAL

PRODUCING REFINING NATURAL GASOLINE PIPE LINE

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4,000,000-Bbl. Responsibility

The forecast of the Bureau of Mines that the demands for domestic crude oils next month will exceed 4 million barrels daily will have a sobering effect on all those who seriously consider the responsibilities which these record requirements imply.

Sixty years passed by before the petroleum industry reached its first million-barrel daily demand for domestic crude. The increase from 3 to 4 million barrels has come in less than 5 years.

Deputy Petroleum Coordinator Davies covered tomorrow when he told N.P.A. members at Atlantic City last week that "it would be a bold man, indeed, who would forecast that the end of the demands to be placed on the petroleum industry of the United States was anywhere in sight."

The significance of a 4-million-barrel outlet to be produced in the fields of this country possibly can best be visualized by comparison. Domestic production is now definitely on a basis of 1½ billion barrels yearly, a growth of 60 per cent since the early thirties.

The Government says that 59,700,000 bbl. of gasoline will be required by domestic users during October. This is 7.5 per cent above the peak month of 1940. This country over the past 6 weeks has consumed more gasoline than it did in all of 1918.

The petroleum demands for this fall, which will exceed the most optimistic predictions of a few weeks ago, come from everywhere. Armies on maneuvers and a Navy with units on duty at remote points in the world's seas, have petroleum requirements which expand weekly.

Larger in volume are the increased needs of a nation which has left the course of business contraction and once more is well on its way in expanding activities, extending from the production of raw materials to the manufacture of new products which have been waiting for markets.

Everything that has been done has brought additional petroleum demands. Factories have quickly been completed because motor vehicles brought supplies and furnished the power for construction. New industrial areas are being created on the assumption that men to operate the plants will come to work in their own cars.

Agriculture, which is dropping the tenet of scarcity for one of plenty, is buying more of several petroleum products than ever before.

This domestic situation should be considered with developments abroad. While the war so far has reduced export sales of petroleum, the position of this country and other parts of the Western Hemisphere in world oil supplies is rapidly strengthening.

In the Eastern Hemisphere the peoples engaged in combat have had neither the personnel nor the materials to expand their petroleum resources. Output, in fact, is less than it was 2 years ago. The largest supply—amounting to 50 per cent of the total in the eastern part of the world—located in the Soviet Union soon may be largely destroyed before being turned over to Axis invaders.

The new world in recent years has furnished the old with approximately half of its petroleum. A prolonged war assures that this dependence will greatly be magnified to continue long after world markets are reopened.

This country has always been dominant in petroleum. Its operating practices are the accomplishments of American scientists and technicians. International developments point to still greater opportunities.

There can be no question of the domestic industry's ability to supply 4 million barrels daily and more if needed. The only "if" is the matter of materials to find, produce, refine and transport. A recognition by Washington of the part that oil is playing in this world crisis will mean that operators in this hemisphere will have the tools to meet every need.

Demand for Domestic Crude Oil Raised to 4,012,900 Bbl. Daily

DOMESTIC crude-oil production of 4,012,900 bbl. daily will be required in October to meet market demand, according to the forecast released last Saturday by the Bureau of Mines. The indicated domestic crude demand in October is 52,900 bbl. higher than the September estimate and 11 per cent greater than the actual requirements for October 1940.

Consideration was given in compiling the October forecast of demand, the bureau explained, to continuation of reduced exports from the Pacific Coast, to a possible increase in movement to the East Coast and to higher naval requirements for fuel oil.

Demand for 59,700,000 bbl. of motor fuel during October is indicated in the Bureau of Mines calculations, an increase of 11 per cent over the actual requirements in this month a year ago.

Texas was assigned 41,500 bbl. of the daily increase of 52,900 bbl. indicated in October. A decrease of 21,500 bbl. is forecast for California crude in consideration of a reduction in exports. Gains of nearly 7,000 bbl. in daily demand for Illinois crude; 8,000 bbl. in Louisiana; 13,200 bbl. for Kansas; 4,600 bbl. for Michigan and 10,900 bbl. for Mississippi were the principal changes in bureau estimates.

The breakdown of crude demand by states is shown in the preceding table:

State—	Forecast October 1941	Forecast September 1941	Actual October 1940
Texas	1,420,100	1,378,600	1,301,400
California	613,200	634,700	618,900
Oklahoma	481,500	489,800	456,800
Illinois	399,200	392,500	353,200
Louisiana	332,000	324,000	284,200
Kansas	253,000	239,800	182,700
New Mexico	114,600	113,200	84,900
Wyoming	84,300	85,000	74,600
Arkansas	78,200	79,000	63,300
Pennsylvania	46,300	48,400	45,200
Michigan	44,100	39,500	47,600
Mississippi	43,900	33,000	11,200
Montana	20,300	20,200	15,700
Indiana	20,100	21,400	20,100
New York	15,500	15,000	13,500
Kentucky	15,100	14,600	14,500
West Virginia	12,000	12,000	11,100
Ohio	9,200	9,800	8,700
Nebraska	5,300	5,000	1,900
Colorado	5,000	4,500	2,700
Other	.....	....	300
Total	4,012,900	3,960,000	3,612,500

The estimated demand for motor fuel in October placed at 61,700,000 bbl. is 1,500,000 bbl. greater than calculated for September. The breakdown of refinery operations as balanced against gasoline production for October is given below:

	Forecast October 1941	Forecast September 1941	Actual October 1940
Demand for motor fuel*:			
Domestic demand	59,700,000	57,500,000	53,807,000
Exports	2,000,000	2,700,000	2,149,000
Reexports	(†)	(†)	....
Total	61,700,000	60,200,000	55,956,000
Supply of motor fuel:			
Straight-runs and cracked gasoline production	54,480,000	52,530,000	47,570,000
Natural gasoline used at refineries	4,820,000	4,470,000	4,156,000
Total refinery production	59,300,000	57,000,000	51,726,000
Benzol and other natural gasoline	1,700,000	1,600,000	1,650,000
Imports	(†)	(†)	3,000
Decrease in finished stocks	700,000	1,600,000	2,577,000
Available supply	61,700,000	60,200,000	55,956,000
Crude-oil requirements:			
Per cent yield of gasoline from crude	44.40	44.90	43.49
Refinery crude required	122,700,000	117,000,000	109,394,000
Daily averags	3,958,000	3,900,000	3,528,800
Foreign crude runs	4,500,000	4,000,000	4,617,000
Exports	4,200,000	4,000,000	5,269,000
Fuel and losses	2,000,000	1,800,000	1,943,000
Total demand for domestic crude	124,400,000	118,800,000	111,989,000
Daily average	4,012,900	3,960,000	3,612,500
Increase in domestic stocks			1,429,000
Actual production			113,418,000
Daily average			3,658,600

*The term "motor fuel" as used in this report includes gasoline, naphtha, and benzol used for all purposes, but does not include heavier distillate used in the operation of tractors or burned in diesel engines.
†Motor fuel imported in bond to be reexported is excluded from the forecasts of both imports and exports.

Illinois Operators Assail Delay In Creating Oil-Gas Division

ILLINOIS oil operators are growing impatient at delay of Governor Green in creating an oil and gas division of the state Department of Mines and Minerals, authorized in a "stopgap" conservation law enacted by the legislature last June.

Working overtime and with an inadequate staff, employes of the department—the majority of whom have been qualified and trained to administer coal-mining laws—are making a serious effort to prevent the drilling of unauthorized wells in basin fields.

Leading operators have repeatedly asked the department to enforce provisions of the new law requiring state permits to drill wells. As a result, Robert M. Medill, director, has assigned coal-mine investigators to the task.

Mr. Medill, in a warning issued September 15, said many wells are being drilled without the necessary permit and he pointed out that violators are subject to a penalty of $50 a day.

Under provisions of the law and companion measures, a blanket appropriation of $162,000 to be used for clerk hire and payment of investigators, has remained untouched since July 1.

Oil operators said failure of the governor to strengthen the new division has been due to a dispute within the state administration over the number of district investigators to be appointed. Major company representatives reportedly have recommended that from 13 to 15 districts be established, each with an investigator empowered to administer the new law. Gilbert E. Keebler, state administrative auditor and close adviser of the governor, reportedly has suggested the number of investigators be limited to five.

State officials also were reported to be experiencing considerable difficulty in securing a superintendent of the new division at a salary of $6,000 per year. Oil men have said that the type of man sought for the post is presently employed in private industry at a higher salary.

Despite current difficulties, Director Medill is making an effort to require operators to pay a $10 fee for drilling permits.

"The department has been lenient with operators because of the newness of the law and has cooperated with the oil industry in every possible form," Mr. Medill declared in his statement. "In a number of instances, operators have been brought together by the department to eliminate a number of unnecessary wells as a contribution to the defense program so steel may be available for armament purposes.

"However," he said, "cooperation by the department with oil operators is obviously being misinterpreted by some."

Tide Water Cuts California Crude Purchases in Half

LOS ANGELES, Calif.—Just a few days before the California Conservation Committee met September 24 to set October allowables, Tide Water Associated Oil Co. notified all California operators from which it purchases refinable crude oil that effective October 1 it will buy only 50 per cent of its previous purchases. The action was taken, the company said, because of rapidly accumulating stocks resulting partially from cessation of shipments to Japan.

Necessity of similar proration of purchases throughout the Pacific Coast industry appeared imminent since certain other marketers are also faced with an accumulation of stocks due not only to the loss of the Japanese market but also to transportation difficulties caused by the diversion of several tankers to transport aviation gasoline to Russia (see p. 115).

Eastern Gasoline-Rationing System May Be Revised

NEW YORK, Sept. 23.—A revised gasoline-rationing system for Atlantic Coast states that will result in more equitable allocations among stations in various areas will be adopted soon.

Under the new system, reported to have been approved by the District 1 marketing committee and submitted to the OPC for approval, October quotas would be based on deliveries during the corresponding month of 1940 instead of on deliveries made during July 1941, the base month now used. This system will be adopted to satisfy numerous complaints of station operators whose business is affected by seasonal factors.

Lt. Comdr. W. H. Osgood Made District 5 Production Chief

Lt. Comdr. W. H. Osgood, now on leave of absence from the U. S. Navy, has been appointed director of production for District 5 (Pacific Coast) by the petroleum coordinator. Commander Osgood also will serve as director in charge of the district headquarters office at Los Angeles, Calif.

Other members of the Los Angeles staff whose appointments were announced at the same time include: William F. Huff, formerly of the Petroleum Equipment Co. of Los Angeles, to be assistant director of production, and Harry L. Gardner, former chief clerk of the Indian Service, Department of the Interior, to be office manager.

Watching WASHINGTON

By HENRY D. RALPH

Senate committee makes interim report that shortage is one of surplus . . . Ickes warns that refusal of SPAB to grant priorities to pipe line may necessitate further gasoline curtailment . . . Elkins pipe-line-suit settlement delayed by friction among companies . . .

WASHINGTON, D. C., Sept. 23.—The oil situation in Washington this week is one of watchful waiting.

The Senate investigating committee has made an interim report stating that the oil shortage in the East is only a shortage of surplus. The Supply Priorities and Allocations Board has concluded that the proposed crude pipe line from Texas to New York Harbor is not sufficiently important to rate top priorities for steel to rush it to early completion. Petroleum Coordinator Ickes returned to the capital but refrained from making an anticipated public defense of his program.

Beneath the surface, however, there is plenty of activity. SPAB is considering possible ways of furnishing enough steel of one type or another to build part of the pipe line in time to be of emergency use. Attorneys for all pipe-line companies are in conference with the Department of Justice in an attempt to settle permanently the status of pipe lines under the Elkins transportation act by means of a new suit and consent decree, a step considered necessary before work could start on the big pipe line. Final corporate and legal steps are being taken to clear the way for construction of the national-defense pipe line as soon as materials and supplies are made available.

Petroleum is beginning to move east by railroad under the new reduced freight rates, and the railroads are making a serious effort to locate sufficient tank cars to make good their claims that they can haul all the oil needed. Coordinator Ickes now has before him the results of a special survey of tank cars just completed by the transportation committee of District 1, which, it is rumored, shows that there are not nearly enough tank cars in the country to move the quantity of oil needed in the East this winter. The presumption is that Mr. Ickes will release these findings at a time he considers propitious, and that the controversy over transportation will then start all over again.

Refinery Surveys Near Completion

In the refining end of the industry a number of surveys are nearing completion. One of these deals with the refining capacity of the country, and it is believed that it will show that it may be insufficient to care for the increased demands of the defense and lend-lease programs. Materials needed for maintenance and repair of existing refineries and construction of new ones are being tabulated with the view of determining how much steel and other metals may be needed. Construction of new refineries to produce 100-octane aviation gasoline is being rushed, and when these new plants are in operation there will be serious problems of obtaining sufficient quantities of the proper types of crudes, blending agents and tetraethyl lead to produce 100-octane, with the result that existing refinery practices and gasoline marketing methods may have to be revised.

Reversal of pipe lines in the East which have been carrying refined products west from the seaboard is one of the immediate objectives of the coordinator, and if this is accomplished it will upset market programs and will require new pipeline links or other means of supplying petroleum to the present western terminals of these lines.

Meanwhile the OPC is completing the organization of its staffs for its five district offices and preparing to carry out the many-sided objectives outlined in the president's letter creating the coordinator's office.

The gasoline-consuming public may currently be of the opinion that there is no further worry over the supply of fuel, but the oil industry realizes that the report of the Senate committee and the action of SPAB have added to, rather than cleared away, its present and future difficulties growing out of the defense program. The Office of Petroleum Coordinator has not relaxed its efforts to plan sweeping changes in the activities of the oil industry, and new and important developments can be expected shortly.

Ickes Warns Shortage May Increase If Pipe Line Not Built

FURTHER substantial curtailment in supplies of gasoline and fuel oil on the East Coast is probable unless the proposed $80,000,000 national-defense pipe line is constructed, Petroleum Coordinator Harold L. Ickes warned late last week. Commenting upon the action of the Supply Priorities and Allocations Board in formally refusing to grant priorities for steel plate required for the manufacture of pipe for the line, Mr. Ickes said he could not explain the board's decision.

"It's up to them to decide," he said. "If we don't get that pipe line it might mean a considerable increase in curtailment over the 15 per cent cut now imposed upon East Coast consumers."

In refusing to grant priorities for the line, SPAB took the position that it is more important in the present emergency to provide steel plates for ship construction "than to insure plenty of gasoline for pleasure driving on the eastern seaboard." In its formal request for priorities, the OPC had applied for preference on approximately 180,000 tons of steel plate and 190,000 tons of seamless-steel tube.

The board, while not granting priorities on drawn tubing, stated that billets from which the tubing is extruded are not under as heavy demand as steel plate, adding that studies have indicated that it would be possible to produce enough tube for at least part of the pipe line without upsetting defense requirements if production schedules were properly adjusted to defense contracts in the tube mills.

Mr. Ickes pointed out that it would take at least twice as long to construct the line if tubing is used, because of the lack of facilities for extruding seamless pipe from billets. It has been estimated that a maximum of 3 to 4 miles a day could be supplied by tube manufacturers. He explained that his office is making a careful and detailed study with respect to the additional time which would be required to build the line with seamless pipe, and said that further representations might be made to SPAB as a result of this study.

Gasoline Deliveries Decrease

The coordinator revealed that latest reports from the 17 principal suppliers show a decrease of 11.4 per cent in gasoline deliveries on the East Coast during the week ended September 12 as compared with the previous week, and a drop of 8.4 per cent below the week ended July 18, when such reports commenced.

"This is gratifying to the petroleum coordinator's office which appreciates the cooperation of the public and of industry, that made this possible," he declared.

Mr. Ickes cited reports of the American Petroleum Institute showing that gasoline stocks on the East Coast dropped 565,000 bbl. during the week ended September 13, following a drop of 458,000 bbl. during the previous week. During the corresponding period in 1940, he said, East Coast dropped only 160,000 bbl.

"The shortage is not under control yet," he asserted, adding that further curtailment of consumption "depends on whether we can bring in sufficient supplies" to meet the increased demand.

The coordinator refused to discuss the report of the Maloney committee to Congress, which urged the lifting of all restrictions upon the sale of gasoline after finding that there is no shortage of petroleum products on the Atlantic seaboard and stating that the only deficiency is "a shortage of surplus."

However, in answer to a question as to whether he planned to drop the present curtailment program in line with the recommendation of the committee, Mr. Ickes said: "Certainly not. To take off the restrictions now would be stupid." He pointed out that the difference between the supply and the demand is constantly widening. "When you see that thing widening," he declared.

(Continued on Page 114)

Well-Head Equipment Makers Perfect Trade Association

HOUSTON, Tex., Sept. 22.—Organization of an "Association of Well Head Equipment Manufacturers" has been perfected with G. S. Watson, McEvoy Co., Houston, Tex., president; E. L. Lorehn, Cameron Iron Works, Houston, vice president, and Herman B. Hendershot, Hinderliter Tool Co., Tulsa, secretary-treasurer. The officers, with L. L. Rector, Rector Well Equipment Co., Fort Worth, Tex., and A. J. Penick, Oil Center Tool Co., Houston, comprise the board of directors. L. D. Hilton, who has been active in well-head-equipment-manufacturing circles for many years, is executive secretary, with headquarters in Houston.

Purpose of the association, a nonprofit organization, is "to acquire, preserve, and disseminate valuable business information and to adopt rules and standards of classification in equipment where standards and classifications are required, and generally to promote the interests and trade and increase the facilities of commercial transactions relating to well-head-equipment business."

Five specific objectives have been undertaken, as follows:

1. Establish a system of certified pressure testing for various equipment.
2. Standardization of equipment, with the adoption of a code of standards and ethics.
3. Work out priorities.
4. Consideration of service, liabilities, wages, and hours.
5. Improvement in supply-store relations.

Committees for each of these objectives have been chosen.

One of the first considerations of the association is to provide a uniformity of nomenclature for designation of equipment and units manufactured by the group. The following terms and definitions have been recommended tentatively:

1. Well-head equipment—the completed assembly of production equipment at the top of the well bore.

2. Casing head—the unit attached to the surface casing serving to suspend and seal the next smaller size casing. It may take any form consistent with this function. If more than two strings of casing are used, additional casing heads are required.

3. Tubing head—the unit attached to the uppermost casing or casing head serving to suspend or seal the tubing. Tubing is distinguished from casing by the fact that it can be manipulated under operating conditions, whereas casing supposedly and usually is a fixed or permanent installation.

4. Christmas tree—the complete assembly of various sizes of valves and fittings, including the tubing head, for production-control purposes.

5. Blowout preventer—the unit of equipment used at the top of the well bore and attached either directly to the casing or to such uppermost section of the well-head equipment to provide the operator with a control of pressures between pipe strings during drilling or production operations, in which is involved the movement of the innermost pipe string.

Nomenclature for the various parts of the casing head or tubing head listed the following designations: Body, hanger, sealing medium, bonnet, and connecting means (either flanges or threaded connections). The hanger is defined as a suspension medium for casing and tubing within the casing head or tubing head, embracing slips, mandrels, rams, and other types.

Regular meetings will be held the second Tuesday in each month with the next meeting October 7 in Fort Worth. Election of officers will be held the second Tuesday each March.

DEATHS

J. C. MARTIN, 46, executive secretary of the Bradford District Pennsylvania Oil Producers Association, was killed last Friday in an accident which also killed John Gloss, American Chemical Co., and seriously injured C. E. Streeter, prominent Bradford producer. The three men were trailing a nitroglycerin-laden truck, which exploded, killing the driver of the truck and the two men in the automobile following. Mr. Martin was killed instantly. Mr. Martin had served as secretary of the Bradford association since 1933. He had been previously employed by Oil Well Supply Co. and Sloan & Zook Co. He leaves his widow and three children.

ROBERT C. TUTTLE, 48, vice president and director of Atlantic Refining Co., president of Atlantic Oil Shipping Co., Keystone Pipe Line Co. and Buffalo Pipe Line Co., vice president of Atlantic Pipe Line Co. and Atlantic Communications Co., and a director of the American Shipbuilders & Shipowners Mutual Insurance Co., died at a Philadelphia, Pa., hospital, September 16, after a brief illness. Mr. Tuttle was a member of the transportation committee of District 1, vice president and a director of the Maritime Exchange, a member of the tanker committee of the American Petroleum Institute and of the Merchant Marine Committee of the Chamber of Commerce. He was born in Allentown, Pa., and educated at University of Pennsylvania. At 17 he entered the employ of Atlantic Refining Co. as a stenographer and in 1922 was made head of the transportation department. He was a member of the Union League, Traffic and Overbrook golf clubs. His widow survives.

TAYLOR M. BISHOP, prominent figure in oil and gas associations, died at his home in Alexandria, Ohio, September 16. Mr. Bishop, who was an oil and gas producer and a drilling contractor, was a former president of the Ohio-Pennsylvania Grade Oil Producers Association, and was treasurer for the past 6 years of the Independent Gas Producers Association of Ohio. He was also vice president for Ohio of the Independent Petroleum Association of America. He leaves his widow and several children.

H. C. WHEELER, 40, independent oil operator of Midland, Tex., was killed when his automobile failed to make a curve and overturned south of Hobbs, N. M., September 19.

WILLIAM L. NICKLAS, 72, veteran of the oil and gas business in western Pennsylvania and West Virginia, and a lease representative of the People's Natural Gas Co. for 28 years before his retirement 6 years ago, died last week at his home in Dormont, Pa.

THOMAS A. ANDERSON, 56, of Oil City, Pa., president, Continental Refining Co., was found dead in the garage at the rear of his home last Friday, victim of a stroke and a fall down a flight of stairs. Mr. Anderson was a native of Oil City, and had spent his entire adult life with Continental. His widow, six sons and four daughters survive.

FRANK KELL, 81, pioneer West Texas capitalist and founder of Wichita Falls, Tex., died last week. Among his interests was that of Olney Oil & Refining Co., of which company he was president. His widow and six daughters survive.

LLOYD MURRAY, 43, Latham, Kans., died in an oil-well accident September 15. He was fatally injured as a pole collapsed while he was helping pull rods from a well north of Latham. His widow and two daughters survive.

THOMAS HESS KENNEDY, 76, former oil man of Bradford, Pa., died last week, following several years of ill health. He has been an independent operator in the Bradford field, and also had been a member of the firm of William C. Kennedy Co., operating in the Pennsylvania Grade oil area and also in Illinois. He had disposed of his oil holdings within the past 10 years, and had been devoting his time to banking. His widow and a daughter survive.

LOT H. WATSON, 83, Nickleville, Pa., oil producer, died at a Bethel, Pa., invalids' home where he had been a patient for a year. He had lived most of his life at Nickleville.

CHARLES EDWARD CAMPBELL, 56, field superintendent for Murphy Oil Co., Tulsa, died September 15 at his home in Tulsa, only a few minutes after he was stricken with a heart attack. Born in Oil City, Pa., Mr. Campbell worked in Illinois before coming to Tulsa in 1911. His widow survives.

ELMER E. LAUGHNER, 80, prominent Pennsylvania oil and gas man for many years, died recently at South Heights, Pa. Mr. Laughner had production in Texas, Kansas and Pennsylvania. He had lived in South Heights for 55 years. He left his widow and two sons.

ALBERT HUGHEY, 35, oil-field gager, died at an Olean, N. Y., hospital, September 16. He had been employed for 15 years by Bradford Transit Co.

DENNIS SMITH, 41, employe of McDonald & Campbell, Shreveport, La., was instantly killed last week when his foot became caught in a moving belt, whirling his body around the flywheel of a gas engine and crushing it. Mr. Smith was a field pumper. His widow and three children survive.

CHARLES F. SMITH, 78, oil producer, died last week in an Oil City, Pa., hospital. He was identified with one of the first companies to employ repressuring methods. He was active as a producer chiefly at Pioneer, a field which came back quickly with improvement of recovery methods.

JOHN C. ROSEBOROUGH, JR., 53, president of the Rodal Oil Co., died at his home in El Paso, Tex., September 15. His company drilled many wells in the East Texas, Rodessa and Lockhart fields, and during the past few years he spent most of his time in West Texas and Arizona.

THE MARKETS*

CRUDE OIL: Demand for crude is at the highest level in history of the industry. Prices are correspondingly strong, although higher costs of moving it to refineries, involving 50,000 to 60,000 bbl. daily by rail, is partially offsetting the benefits that might otherwise accrue to producers.

REFINERY PRODUCTS: Prices are stronger in most areas. Major company buying on the Gulf Coast has stimulated gasoline prices there and practically all other sales reported on the spot market are being closed at the highs of quoted ranges. Lubricating-oil and natural-gasoline prices are up in the Mid-Continent.

TANK WAGON AND POSTED DEALER: There are a few soft spots in the tank-wagon market in the Middle West but elsewhere they are relatively firm and unchanged. Dealer margins are being sacrificed in some sections to offset the higher costs of delivery and stronger markets at the source of supply.

FINANCIAL: Oil securities moved higher during the early part of the past week, sold off but rallied at the close. Averages of 30 representative stocks for the week ended September 20: High, 26.84; low, 26.09; close, 26.32. For week ended September 13: High, 26.59; low, 25.79; close, 26.39.

*Detailed information in market section.

Arkansas Sour Gas May Be Used to Fuel Electric Plants

By GEORGE WEBER

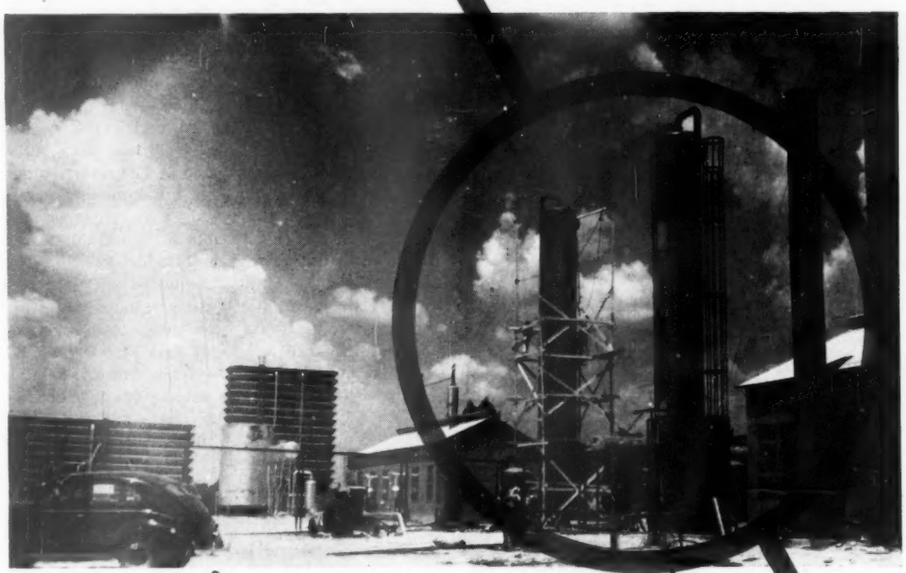
The Story Behind the News! (Reprinted from Oil & Gas Journal 9-11-1941)

AN early decision is expected on the proposed construction of gas-fired steam-electric plants in South Arkansas to provide aluminum manufacturing in the state. The Arkansas Oil and Gas Commission and the Arkansas Public Utilities Commission, coordinating agencies for Governor Adkins, have received assurances from operators of gas properties in South Arkansas that the project will be given priority on gas demand.

The swift action of the state bodies and the oil companies should assure a quick decision on the part of the Government, to locate the industrial-defense project in South Arkansas. The agreement would accrue benefits to both parties to a gas contract for it would provide a source of power near important bauxite deposits, eliminating transportation problems, and at the same time it would assure the first major outlet for sour gas in South Arkansas. In addition, the industry shows promise of permanency after the present emergency has expired, for Arkansas has long been cited as a logical area for processing its own aluminum resources.

At a meeting in El Dorado, Ark., last week, operators' representatives in the Dorcheat field of Columbia County met with officials of the Arkansas Oil and Gas Commission and generally agreed to the terms which operators at McKamie and Big Creek had previously offered prospective gas consumers. With this support, the state can now assure a daily supply of 50-60,000,000 cu. ft. of gas, backed by a sufficient reserve to provide long-term contracts. The tentative price of the gas was set at 2 cents per 1,000 cu. ft., untreated in the fields, or 4 cents, sweetened.

Reserves of gas in the three fields concerned are listed in the accompanying table. Although the estimated area of the McKamie field may exceed its actual extent, since a recent outpost operation proved a failure, a new gas-condensate discovery, 5 miles east of the Dorcheat field, is expected to more than offset the disappointment at McKamie. Reserves shown in the table are considered conservative. Reserves already proven by actual production are estimated capable of supplying the 50,000,000-cu. ft. daily requirement for over 10 years. On the basis of expected proven reserves the producing period is greatly increased. None of the fields is considered more than partially developed, and approximations of reasonably expected extensions of currently productive acreage bring the reserve estimate to [illegible],000,000,000 cu. ft., sufficient to care for the requirements of the steam-power plants and other industries.



This desulfurization plant is under construction by Lion Oil Refining Co. at the Magnolia field. It will treat gas for use as refinery fuel. Similar plants may be constructed at Big Creek, Dorcheat and McKamie to sweeten gas for fuel in the proposed steam-electric power plants

The high sulfur content of South Arkansas gas has largely prevented it from finding a satisfactory outlet. Hydrogen sulfide varies from 360 grains per 100 cu. ft. at Big Creek to 4,250 grains at McKamie, the latter being the sourest gas yet discovered in a major reserve. In addition to the sulfur, relatively high inert gas fractions have resulted in low British thermal unit values.

Neither high sulfur content nor low heating value prevent efficient utilization of the gas in South Arkansas, however, for its use as boiler fuel is possible after desulfurizing. Low-heat content will not prevent efficient use close to its production source.

Desulfurizing Plant Installed

It is expected that two steam-power plants each developing 90,000 kw. will be constructed on the Ouachita River in the vicinity of Camden. Desulfurizing plants will be located in the respective fields. This will be necessary because of the varying sulfur content of the gas. Commercial treating has been proven feasible. The Lion Oil Refining Co. will begin operations in a desulfurizing plant August 1, which will ultimately process 15,000,000 cu. ft. daily in the Magnolia field. This gas, produced with oil, was formerly flared, but will eventually find complete disposition as refinery fuel at El Dorado.

Similar treating plants will be built at McKamie, Dorcheat and Big Creek if the gas demand materializes, and natural-gasoline-extraction facilities will be constructed in connection with them, netting added recovery of condensate from the high-pressure gas. While such treating plants are costly, the adequate reserves will allow construction of large-capacity units, thus reducing treating cost to less than 2 cents per 1,000 cu. ft.

If the problem of dealing with carbon-dioxide fractions can be successfully solved in the future, there is a possibility for added returns through manufacture of free sulfur from the hydrogen sulfide removed from the gas. This would net particularly large returns at McKamie. However, the manufacture of such byproducts is now secondary in importance to the utilization of the treated gas.

The outlet for sour gas will solve the problem now facing the Oil and Gas Commission and operators in the fields. Since McKamie and Big Creek are classed as gas fields, state law requires that wells be produced only when a legal disposition of gas is available. Limited demand is now available for drilling and other purposes while the fields are undergoing development, but ultimately a large outlet must be found to assure practical payout of the wells.

GAS RESERVES IN THREE SOUTH ARKANSAS FIELDS

Field:	Big Creek	McKamie	Dorcheat
County:	Columbia	Lafayette	Columbia
Proven area (ac.)	40	1,120	520
Estimated area (ac.)	2,000	4,500	3,100
Proven reserves, billion cu. ft.	40	150	26
Probable reserves, billion cu. ft.	67	700	91
Gas-liquid ratio, cu. ft. per bbl.	19,800	8,000	8,000
Producing depth, ft.	7,960	9,200	8,850
Reservoir pressure, lb. per sq. in.	3,723	4,365	3,805
Number of wells	1	7	13
Av. pay thickness, ft.	35	100	40
Gas analysis:			
Hydrogen sulfide, %	.60	6.70	3.10
Carbon dioxide, %	3.40	4.30	2.00
Methane, %	50.24	63.00	77.14
Ethane, %	4.78	7.24	5.83
Propane, %	2.04	3.28	2.76
Isobutane, %	.77	1.06	1.14
n-Butane, %	.83	1.31	1.19
Pentanes, %	.50	.85	.82
Hexanes, %	.14	.26	.25
Heptanes and heavier, %	.07	.10	.07
Nitrogen, %	36.63	11.90	5.70
Gasoline content (g.p.m.)	.787	1.225	1.183
Specific gravity	.828	.8177	.7334
B.t.u. (including H_2S)	719	1,006	1,081

* The GIRBOTOL PROCESS is used for this purification job

GIRBOTOL PROCESS is a simple, cyclic process for the separation of acidic constituents from gaseous mixtures. Its cycle and equipment the process is similar to gasoline absorption. For further information on this economical purification process used in 90 plants today, write to:

THE GIRDLER CORPORATION
Incorporated
LOUISVILLE, KENTUCKY

Oil Men Warned to Survey Equipment Needs Promptly

(Continued from Page 27)

sess., as amended by Public 89, 77th Cong., 1st sess.; Sec. 9, Public 783, 76th Cong., 3d sess.)

Gas Industry Granted A-10 Priority for Maintenance

WASHINGTON, D. C., Sept. 22.—A maintenance, repair and supplies priority order permitting natural and manufactured gas companies and other public utilities and their suppliers to use an A-10 rating to facilitate deliveries of maintenance and repair materials and operating supplies which are vitally needed for defense and essential public services, was issued last week by Donald M. Nelson, director of priorities.

The new order, P-46, similar to the P-22 order issued the previous week for oil producing, refining and transportation, and 19 other essential industries, provides that the A-10 rating may be used by either the utility or the supplier to obtain three classes of material:

1. Maintenance material—needed for the upkeep of property and equipment in sound condition.

2. Repair material—needed for restoration of property and equipment to sound condition after wear and tear, damage, destruction or the like.

3. Operating supplies—material essential to the operation of the utility involved and which is generally carried in the company's stores and charged to operating expense.

The rating cannot be used for plant expansions or new improvements, or for expansion of the service area of the utility. However, the rating may be used in some cases to provide for connections for new consumers to the existing utility system and also for materials needed to relieve serious overloads.

J. Percival Rice Made District 3 General Counsel

J. Percival Rice, Dallas, Tex., attorney, has been made general counsel for District 3 with headquarters at Houston, Tex., in the petroleum coordinator's organization.

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Concessions Made to Spur Low-Gravity Oil Search

Steps are being taken to encourage the development of low-gravity crudes in the East Central Alberta, Canada, shallow fields. The Canadian Pacific Railway Co. has announced that for the duration of the war or till September 1, 1944, whichever period is longer, it will rebate one-half the royalty payable on low-gravity oil suitable for fuel produced on its acreage in the Wainwright, Dina, Battleview, Vermilion and related areas. Rebates will be effected on oil grading below 23° A.P.I. and will apply only to wells completed prior to August 1, 1942.

Los Angeles Nomads Will Act As Hosts at A.P.I. Meeting

Definite plans are being completed by the Los Angeles chapter of Nomads to act as hosts to Nomads and foreign oil men at the American Petroleum Institute convention to be held in San Francisco, November 3-7.

Bart Gillespie is chairman of the general committee handling all details, assisted by Clarence Hill and Charlie Toll. Additions to this committee made during the past few days include Elmer Decker, Fred Ripley, Ted Sutter, Bill Bettis, Ernie Fowks, and Hi Cassidy.

In speaking of the Nomads' program for the coming convention, Ernie Fowks, president of the Los Angeles chapter, said, "All Nomads recognize the opportunity presented for doing an outstanding and worth-while job at San Francisco in November. To act as hosts for all foreign oil men visiting the convention, as well as to Nomads from other chapters, involves a great deal of planning and hard and conscientious work on the part of the various committees. We are sure, however, that the task will be handled in a manner which will be a credit to the industry."

Within the next few weeks details of the Nomads' program will be released, together with the names of the various committees handling them.

Hearing Scheduled on Oklahoma Rate Increase

Hearing on natural-gas-rate increases proposed by the Oklahoma Natural Gas Co. for 21 communities was ordered by the Corporation Commission for October 10 in Oklahoma City. The gas company proposal would extend its uniform 45 cents per 1,000 cu. ft. to these towns.

Six of these communities, Holdenville, Henryetta, Quinton, Stillwater, Okemah and Wetumka, have filed protests, Reford Bond, chairman of the commission, said all towns affected would be made parties to the hearing but protesting towns would be heard first. The gas company was also directed to refrain from billing customers in these communities until the commission passes on the schedules.

Canadian Producers Ask Advance in Crude Prices

G. B. Webster of Ottawa, Canada, representing the federal oil controller, held a conference at Petrolia last week with members of the Western Ontario Crude Oil Producers Association.

The producers advocated an increase in current crude prices ranging from $2.10 to $2.17 to stimulate reconditioning of wells and increase production.

Indiana Farm Bureau to Add Cracking and Poly Units

CHICAGO, Sept. 22.—A Dubbs cracking unit and a U.O.P. catalytic polymerization unit are to be added immediately to the skimming plant of the Indiana Farm Bureau Co-Operative Association, Inc., at Mount Vernon, Ind.

Officers of the association recently signed a license agreement with Universal Oil Products Co. covering the two units. They are designed by Universal engineers and built by Frick-Reid Supply Corp. Work is starting at once.

The refinery, built in April 1940, operates on crude from the Griffin, Indiana, pool. It originally had a crude capacity of 2,000 bbl. a day, but this has recently been increased to 3,000 bbl. When the cracking and poly unit are completed, the plant, with its gathering system and transportation facilities, will represent an investment of about $1,000,000.

The Dubbs unit is to be of the two-coil selective type, with rated cracking capacity of 1,600 bbl. a day, and the poly unit is to be nonselective, with a rated charging capacity of 500,000 cu. ft. of cracked gas per day.

J. B. Cummins is president of the association, C. C. Palmer, vice president; L. H. Hill, general manager; M. J. Briggs, secretary and assistant general manager, and J. Ivan Harris, manager of the oil division. Their headquarters are in Indianapolis, Ind.

Ralph Booker, refinery manager, also manager of the truck and pipe-line departments, and R. J. Potts, refinery superintendent, have their headquarters in Mount Vernon, Ind.

Petroleum Accountants Will Meet in Joint Session

A joint conference of the Petroleum Refiners Division and Eastern Petroleum Credit Group of the National Association of Credit Men has been called for October 27-29, at Knickerbocker Hotel, Chicago. All credit men of the petroleum industry are invited to attend. Plans for the meeting are well along in preparation by a committee headed by D. A. Grant, Socony-Vacuum Oil Co., Inc. The details of the program will be worked out by a joint committee representative of the two organizations participating.

Natural Gas Imported Into Texas Not Subject to Tax

AUSTIN, Tex.—Natural gas imported into Texas from other states is not subject to taxation under the omnibus tax bill passed at the last regular session of the legislature, according to a ruling by Atty. Gen. Gerald C. Mann. The attorney general based his opinion on the language of the bill which places the tax only on producers and is ineffective as regards pipe-lines and out-of-state producers transporting gas into Texas.

Because of the opinion, requested by Comptroller George Sheppard, the state will have to refund approximately $10,000 already collected on importations since the law went into effect. The bill was designed to levy the same rate of taxation on imported natural gas as on that produced in the state, but defects in the bill would make such a tax a levy on producers in other states and thus nullify its provisions in that respect.

Columbia Gas Hearing Set for September 30

WASHINGTON, D. C.—Hearing on integration and corporate simplification proceedings against Columbia Gas & Electric Corp., Columbia Oil & Gasoline Corp., Panhandle Eastern Pipe Line Co., Michigan Gas Transmission Corp. and Indiana Gas Distribution Corp. will be held before the Securities and Exchange Commission September 30. The hearing was postponed from September 16 on request by the Columbia companies who asked additional time to prepare.

Sunray to Extend Poly Unit at Allen

Sunray Oil Co. of Tulsa has launched construction on an addition to its refinery at Allen, Okla. An extension to the Universal Oil Products Co. catalytic polymerization unit is designed almost to double the present output of 90-octane polymer gasoline, which has a blending value of 110 octane.

The new unit will increase the recovery of polymer gasoline from refinery fuel gases and thus conserve crude oil.

F. L. Martin, vice president in charge of the refining for Sunray, is to be in charge of the enlargement program. He stated that in connection with the extension of the catalytic polymerization unit, Sunray will also add a Girbotol treating unit to further produce finished polymer gasoline having a good lead susceptibility.

International

Venezuelan Production Dips But Holds Above Pre-June Average

DAILY average crude-oil production fell approximately 17,000 bbl. in July below the June rate. Still, output remained substantially higher than other war months prior to June. One of the most interesting points disclosed by the July production figures is the growth of output from fields outside the Lake Maracaibo district. Lake fields, which yield mostly heavy types of crude, produced 377,324 bbl. of oil daily in July, a reduction of nearly 22,000 bbl. from the rate of output in June.

Fields outside the Lake district produced 234,510 bbl. daily in July, an increase of more than 6,000 bbl. over June and compares with 206,267 bbl. daily produced in July 1940. There are five fields on the July production report that were not in operation a year ago.

The Oficina field, largest of the newer producing areas, is currently producing approximately 600,000 bbl. a month more than it was a year ago. San Joaquin and El Roble, two other new fields that have been on production less than 3 years, are showing a constant increase in output. San Joaquin produced 234,880 bbl. in July compared with 105,049 bbl. in the same month a year ago. El Roble produced 154,800 bbl. in July compared with 205,507 bbl. in June and with 78,141 bbl. in July 1940.

Lagunillas continues as the largest producing field in Venezuela. The field produced 5,395,655 bbl. in July which is almost 700,000 bbl. under the June recovery and nearly 300,000 bbl. below the yield a year ago.

Tia Juana is the second largest field but it is showing an almost constant growth in contrast to the decline in Lagunillas. Production from Tia Juana in June totaled 3,995,008 bbl. while in July 1940, the production was 3,249,164 bbl. Cabimas, Mene Grande, Quiriquire and Oficina are the other Venezuelan fields which produced more than 1,000,000 bbl. each in July.

Petroleum exports from Venezuela increased in July to 17,462,160 bbl., compared to 15,911,555 bbl. reported in June. Shipments from the Maracaibo district increased approximately 800,000 bbl., those from Maturin were up about 150,000 bbl. and loadings from the Barcelona district were up more than 600,000 bbl. for the month. Details on production by fields and companies and petroleum exports in July appear in the accompanying tables.

VENEZUELAN CRUDE-OIL PRODUCTION

(By Fields)

	July 1940	June 1941	July 1941
Cabimas	1,772,415	1,898,833	1,887,975
Lagunillas	5,656,858	6,078,803	5,395,655
Tia Juana	3,249,164	3,995,008	4,392,320
Bachaquero	159,775	21,289	21,095
Lake fields total	*10,838,212*	*11,993,933*	*11,697,045*
Daily average	*349,620*	*399,791*	*377,324*
La Concepcion	64,946	91,409	104,525
La Paz	39,683	34,091	31,955
Mene Grande	1,131,727	1,027,590	1,152,985
El Cubo	591,570	556,543	583,910
Cumarebo	49,252	164,170	166,260
Las Palmas	2,961	1,984	1,420
El Mene de Mauroa	21,511	16,824	16,725
Hombre Pintado	51,184	48,449	50,280
Mara district		5,289	5,690
Quiriquire	1,901,706	1,758,814	1,866,160
Pedernales	154,063	122,960	134,135
Temblador	361,830	266,846	245,415
Oficina	1,363,614	1,852,307	1,966,975
Jusepin	464,128	493,991	501,875
Santa Ana	9,562	21,597	17,785
San Joaquin	105,049	205,507	234,880
El Roble	78,141	145,013	154,880
Leona		7,916	6,480
El Tigre	2,009		
Guario	23	8,171	8,245
Santa Rosa		14,653	13,775
Los Ollas		1,039	
Los Caritos		409	
Rincon Largo			160
Socororo	658		
Tabasca			960
El Mene de Acosta	672		
Santa Barbara		2,969	4,355
Other fields total	*6,394,290*	*6,848,541*	*7,269,830*
Daily average	*206,267*	*228,285*	*234,510*
Grand total	17,232,502	18,842,515	18,966,875
Daily average	555,887	628,082	611,834

(By Companies)

	July 1940	June 1941	July 1941
Caribbean Pet. Co.	1,131,725	1,027,590	1,152,985
Venezuelan Oil Concessions, Ltd.	4,782,988	4,055,846	4,598,580
Colon Development Co.	591,570	556,543	583,910
Lago Pet. Corp.	4,245,318	6,465,479	5,612,535
Mene Grande Oil Co.	3,471,811	3,731,346	3,860,595
British Controlled Oilfields, Ltd.	21,511	16,825	16,725
Central Area Exploitation Co.	51,184	48,449	50,280
Standard Oil Co. of Venezuela	2,907,184	2,907,513	3,057,360
Compania de Petroleo Lago	28,511	16,087	15,455
Socony-Vacuum Oil Co.	28	8,171	8,245
Tocuyo Oilfields of Venezuela	672		
Texas Co. (Venezuela), Ltd.		409	160
Compania Consolidada Petroleo		2,969	4,355
Orinoco Oil Co.		5,289	5,690
Total	17,232,502	18,842,515	18,966,875

VENEZUELAN PETROLEUM EXPORTS

From Maracaibo

Shipping company and destination—	June	July
Caribbean Pet. Co., Aruba	75,503	
Caribbean Pet. Co., Curacao		143,415
Venezuelan Oil Concessions, Ltd., Curacao	3,895,026	4,809,145
Colon Development Co., Ltd., Curacao	512,156	550,730
British Controlled Oilfields, Ltd., Curacao	45,131	72,320
Lago Pet. Corp., Aruba	4,774,721	4,917,655
Lago Pet. Corp., Las Piedras	744,703	493,890
Mene Grande Oil Co., Las Piedras	1,908,854	1,918,695
Standard Oil Co. of Venezuela, Trinidad	41,056	22,220
Standard Oil Co. of Venezuela, Canada	47,913	93,290
Standard Oil Co. of Venezuela, United States	115,587	
Standard Oil Co. of Venezuela, Guiria	33,978	
Maracaibo total	*12,243,788*	*13,021,360*

From Maturin

Standard Oil Co. of Venezuela, Aruba	913,900	1,418,635
Standard Oil Co. of Venezuela, Guiria	272,008	161,240
Standard Oil Co. of Venezuela, Canada	84,893	150,275
Standard Oil Co. of Venezuela, E.E.U.U.	98,286	
Standard Oil Co. of Venezuela, Tenerife	137,706	
Standard et al (from Boca de Urocoa), Guiria	254,620	150,040
Standard et al (from Boca de Urocoa), Aruba		27,430
Maturin total	*1,761,413*	*1,907,620*

From Barcelona

Standard and Mene Grande, United States	890,735	1,377,030
Standard and Mene Grande, Aruba	451,735	736,785
Standard and Mene Grande, Curacao	382,808	419,365
Standard and Mene Grande, Canada	181,082	
Barcelona total	*1,906,360*	*2,533,180*
Venezuela grand total	15,911,555	17,462,160

Mexico . .

Daily Average Output Declines 21,000 Bbl.

PRODUCTION from fields of Mexico under management of Petroleos Mexicanos declined to 97,465 bbl. daily in August compared to 119,841 bbl. in July. Mexico's total production in July was 3,839,558 bbl., a daily average of 123,857 bbl. Production statistics from the independent firms operating in Mexico are not yet available for August but they normally produce less than 5 per cent of the country's total crude output. Therefore, the independent production in August will not be sufficient to change materially the decline shown in Petroleos Mexicanos' operations.

Production of 3,839,558 bbl. in July this year compares with output of 3,969,411 bbl. in the same month in 1940. Most of the reduction in crude output is accounted for by a drop of about 255,000 bbl. in the monthly production of the South Tampico district which in July this year totaled 404,032 bbl., against 658,953 bbl. that month a year ago.

Details of production statistics follow:

MEXICAN CRUDE-OIL PRODUCTION

(Figures in barrels)

District—	July 1940	June 1941	July 1941
North Tampico	428,940	443,545	448,818
South Tampico	658,953	420,742	404,032
Poza Rica	2,410,322	2,430,286	2,485,538
Isthmus fields	471,196	517,669	501,170
Total	3,969,411	3,812,242	3,839,558

PETROLEOS MEXICANOS PRODUCTION

District—	Aug. 1940	July 1941	Aug. 1941
North Tampico	315,141	370,692	385,234
South Tampico	420,004	357,426	375,230
Poza Rica	2,531,485	2,485,735	1,768,037
Isthmus fields	457,407	501,208	492,922
Total	3,724,037	3,715,061	3,021,420

Japan . .

Subsidy Increased for Oil Importers, Refiners

AN increase of 20 per cent in the subsidy to oil importers and refiners over the 1941 allocation has been arranged by the Japanese Ministry of Commerce and Industry. Petroleum distributors are required by law to maintain a 6-month supply in storage.

Nippon Petroleum Co. has petitioned the commerce ministry for permission to build a 225-mile pipe line from Kashiwazaki on the Sea of Japan to Tokio.

Refinery Expansion

Toluene Plant Is Built Five Weeks Ahead of Schedule

HOUSTON, Tex. — Completed last week and turned over to the Ordnance Department was the $11,857,000 Baytown Ordnance Works which was constructed and will be operated by the Humble Oil & Refining Co. under contract with the U. S. Government for the processing of toluene, basic ingredient of TNT and of DNT, which is used in the manufacture of smokeless powder.

The plant was constructed under a cost-plus-fixed-fee contract for $10,760,000 and Humble spent an additional $1,097,000 for new equipment for the existing refinery. This is to be paid back by the Government over a period of 5 years, at the end of which Humble may purchase the equipment on a prearranged basis or transfer title to it to the Government.

While neither the Government nor Humble has revealed the capacity of the plant, it has been generally estimated to be 30,000,000 gal. annually. From this amount 300,000,000 lb. of TNT can be manufactured.

TNT (trinitrotoluene) is the principal high explosive used in artillery shells.

Lt. Col. Byron Rife, resident commander for the Ordnance Department, took over the plant from Maj. John T. Morgan, constructing quartermaster, who worked under supervision of Col. Edwin V. Dunstan, constructing quartermaster for the Eighth Corps Area. Col. John G. Booton of the Ordnance Department, Fort Sam Houston, will be the government supervisor in the operation of the plant.

The Humble company was represented on the job by W. P. Willis, field superintendent. Subcontractors were E. B. Badger & Sons, C. F. Braun & Co., and the M. W. Kellogg Co. The plant is composed of three main units, a distillation unit, a hydroformer, and an extraction plant.

Contract for the construction was awarded to Humble on October 23, 1940, and actual construction began November 13.

Three Technical Papers Arranged for Refiners

First of the 1941 regional technical meetings of the Western Petroleum Refiners Association will be held on Friday, October 3, at the Allis Hotel, Wichita, Kans., starting at 9:30 a.m.

The program comprises three technical papers, the first of which will be presented by Harold Bottomley, chief chemist of Cosden Petroleum Corp., Big Spring, Tex., entitled "Organic Sulfur Compounds in Petroleum Distillates." Among other things this paper will include data on synthetic blends of various organic sulfur compounds and gasolines tested for tetraethyl lead response, odor, corrosion, and sunlight stability. Data on gasolines before and after various types of laboratory treatment for reduction of sulfur, discussions concerning gasolines treated on plant scale equipment, and of the economics of sulfur reduction by various methods applied to various gasolines will be included. Mr. Bottomley has made an intensive study of this important subject, and his paper is expected to develop new and valuable data.

Second paper on the program will be entitled "Operation and Maintenance of Tube Rolling and Cleaning Tools," by G. F. Ilgen, of the Airetool Manufacturing Co., Springfield, Ohio. Mr. Ilgen's paper will include much first-hand information based on his experiences in plants where every known type of processing is used, and where conditions actually encountered give him an exceptionally keen knowledge of tube-cleaning problems.

During the noon recess the supply and equipment men will be host at a buffet luncheon.

Final paper on the program will be "Tractor Fuels and the Problems of the Engineer Designer," prepared by Frank Sailer, chief chemist of the experimental department in collaboration with H. S. Manwaring, chief engineer, engine development laboratories, both of the International Harvester Co. organization in Chicago. Mr. Sailer will present the paper. Refiners' interest in tractors and tractor fuels has probably never been greater than at present. The paper will be comprehensive in its scope, but in particular gasolines, tractor fuels, kerosene and engine distillates will be discussed as affecting the engine designer and field performances of the engine.

Second of the 1941 regional meetings will be held in Shreveport, La., on Friday, October 17, and details of the program for this meeting will be announced shortly.

Bradford Refining Co. Retains Franchise, Rents Warehouse

BRADFORD, Pa. — The Bradford Oil Refining Co., whose refinery at Foster Brook was sold at public auction recently to the Kendall Refining Co. for $305,500, has leased a portion of the former Leon-Ferenback Silk Mill building in Bradford for use as office and warehouse.

Moving of office equipment and oil inventories is under way and is expected to require all this week, according to John von Carlowitz, vice president and treasurer of the firm. The company's distribution business, which it retained along with its franchise, will continue during the transfer operations, he said.

At the recent sale of the company's properties, trustees offered the plants, buildings and equipment and about 40 miles of pipe line. Trustees for the bondholders took possession of the plant several months ago after the refinery was virtually shut down at the end of December 1940.

Natural Gas

Natural-Gas Consumption Climbing at Steep Rate

Consumption of natural gas is currently exceeding demand in the comparable months of 1940 by approximately 15 per cent. This conclusion is reported in natural-gas statistics for June released last week by the American Gas Association for June. The 6 months' record does not compare as favorably with current consumption, largely because of the relatively mild weather during the first quarter of this year in contrast to 1940 conditions.

Consumption of natural gas was 8.3 per cent higher during the first half of this year than for the first 6 months of 1940. The higher average consumption held at approximately 15 per cent during the last 2 months of the first half year.

Most of the increased consumption of natural gas is created by industrial activity, statistics show. For example, the industrial consumption in June 1941 accounted for 56 per cent of the total natural-gas sales compared to 54 per cent a year ago. Industrial consumption increased 20.7 per cent last June over a year ago and for the first 6 months this class of demand was up 15.9 per cent. Gas consumed in electric generation was 16.2 per cent higher in June than a year ago and for the 6 months 9.2 per cent over 1940.

Domestic customers served by natural-gas utility companies, including house heating, totaled 7,252,000 at the end of June which is a gain of 4.4 per cent over the same month a year ago.

HIGH-PRESSURE GAS DIVISION HEAD NAMED BY N.G.A.A.

E. E. De Back, general manager of the Chicago Corp., Corpus Christi, Tex., is shown here at left conferring with Ray E. Miller, Tulsa, of Hanlon-Buchanan, Inc., president of the Natural Gasoline Association of America on his duties as vice president of the association in charge of the newly created high-pressure division

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DALLAS, TEXAS

PROGRAMS AND MEETINGS

Oil Compact Will Meet in Dallas

Charles Orr, secretary of the Interstate Oil Compact Commission, announced last week that the organization would hold an important meeting at Dallas, Tex., on October 15 and 16. Mr. Orr said that there was sentiment among oil men for the commission to request Coordinator Harold Ickes to demand steel priorities for the oil industry so that materials would be available for continued exploration and development of new fields. Gov. Leon C. Phillips, chairman of the commission, is expected to issue the call for the meeting momentarily.

Chemists and Researchers to Meet at Ponca City

Petroleum chemists and research workers from major producers and refiners of Oklahoma will convene September 27 in Ponca City to hear a technical discussion by Dr. John Turkevich, department of chemistry of Princeton University, on petroleum chemistry. The meeting, sponsored by the Oklahoma section, American Chemical Society, will be preceded by an inspection tour of the Continental Oil Co. and Cities Service Oil Co. plants in Ponca City. A dinner will be served in the Continental dining rooms before the evening session.

Drilling Contractors Fix Dates for Annual Meeting

The first annual meeting of the American Association of Oil-Well Drilling Contractors will be held in Dallas, Tex., November 13 and 14, it was announced this week by J. E. Brantly, president of the group and president of Drilling & Exploration Co., Inc., Los Angeles, Calif.

Brad Mills, Dallas, executive secretary of the association, is now arranging a program centering around operating problems of particular interest to contractors. In announcing the meeting, Mr. Brantly emphasized that all contractors, whether members of the association or not, are invited to attend. He expressed hope that nonmembers would affiliate with the organization, pointing out that efforts to solidify the position of contractors and to improve the conditions under which they serve the industry warrant fullest support.

Petroleum Accountants Society Will Begin Meetings

The first meeting of the 1941-42 fiscal year of the Petroleum Accountants Society will be held Thursday, September 25, at 6 p.m. The meeting will be held at Mayo Hotel, Tulsa. Falkner C. Broach, vice president, National Bank of Tulsa, will address the meeting on the subject of inflation. Andrew Rowley, oil editor of the Tulsa Tribune, will also be a speaker. An entertainment program will feature a "barber-shop quartet," known as the Chord Busters, now the national champions.

Three new directors will be elected for a period of 3 years to succeed those now retiring. Officers will be chosen by the newly elected board to serve for the current fiscal year.

Seven Papers on Program Of Oklahoma Utilities

The Gas Division of Oklahoma Utilities Association will hold a 1-day meeting at the Biltmore Hotel, Oklahoma City, September 26. Following is a list of some of the papers that will feature the meeting:

"Long-Distance Controls and Gages," E. C. McAninch, chemist, Oklahoma Natural Gas Co.

"Our Experiences in Gas Dehydration," Bruce Nichols, Consolidated Gas Utilities Corp.

"Private Industry and Public Safety," Walter B. Johnson, commissioner, Department of Public Safety, State of Oklahoma.

Oil Men Will Hear Discussion On Government

George C. Hester, professor of government at Southwestern University, is scheduled to address the convention of the Texas Mid-Continent Oil and Gas Association, which will be held at Beaumont, October 9-11. Professor Hester will discuss fitting state and local governments to present-day needs. Other convention speakers include the Right Hon. Lord Marley, deputy speaker of the British House of Lords, who will talk on "Oil and Victory."

Engineers Club of Fort Worth Will Resume Meetings

The Petroleum Engineers Club of Fort Worth, Tex., will begin its fall meetings at a dinner at 6:30 p.m., Friday, September 26, at Hotel Texas. D. F. Purdum will be the principal speaker, speaking on "Some Recent Developments in Subsurface Testing." The Engineers Club will resume its Monday luncheon at Hotel Texas, beginning September 29.

Magnetic Storm

TUCSON, Ariz., Sept. 22.—A severe storm began September 17, at 10 p.m. and ended September 21 at 11 a.m., central standard time.

CALENDAR OF EVENTS

September

SOCIETY OF AUTOMOTIVE ENGINEERS, national tractor meeting, Schroeder Hotel, Milwaukee, Wis., September 25-26.

OKLAHOMA UTILITIES ASSOCIATION, Gas Division meeting, Biltmore Hotel, Oklahoma City, Okla., September 26.

NATIONAL LUBRICATING GREASE INSTITUTE, ninth annual meeting, Stevens Hotel, Chicago, September 29-30.

October

WEST VIRGINIA OIL AND NATURAL GAS ASSOCIATION, annual convention, Clarksburg, W. Va., October 2-3.

WESTERN PETROLEUM REFINERS ASSOCIATION, regional technical meeting, Allis Hotel, Wichita, Kans., October 3.

NATIONAL FOREIGN TRADE CONVENTION, twenty-eighth meeting, Hotel Pennsylvania, New York City, October 6-8.

NATIONAL SAFETY CONGRESS, Stevens Hotel, Chicago, October 6-9.

AMERICAN SOCIETY OF PHOTOGRAMMETRY, midyear convention, Tulsa, October 7-9.

TEXAS MID-CONTINENT OIL AND GAS ASSOCIATION, twenty-second annual convention, Beaumont, Tex., October 9-11.

INDIANA INDEPENDENT PETROLEUM ASSOCIATION, fall convention and old-timers' gathering, Hotel Severin, Indianapolis, Ind., October 14-15.

AMERICAN ASSOCIATION OF PETROLEUM GEOLOGISTS, Pacific section, Los Angeles, Calif., October 16-17.

AMERICAN INSTITUTE OF MINING AND METALLURGICAL ENGINEERS, Petroleum Division, Dallas, Tex., October 16-18.

WESTERN PETROLEUM REFINERS ASSOCIATION, regional technical meeting, Washington-Youree Hotel, Shreveport, La., October 17.

NATIONAL STRIPPER WELL ASSOCIATION, Tulsa, October 20.

INDEPENDENT PETROLEUM ASSOCIATION OF AMERICA, twelfth annual meeting, Tulsa, October 20-21-22.

SOCIETY OF AUTOMOTIVE ENGINEERS, national fuels and lubricants meeting, Mayo Hotel, Tulsa, October 23-24.

AMERICAN INSTITUTE OF MINING AND METALLURGICAL ENGINEERS, Southern California section, Los Angeles, Calif., October 29-30.

SOCIETY OF AUTOMOTIVE ENGINEERS, national aircraft production meeting, Biltmore Hotel, Los Angeles, Calif., October 30-November 1.

CALIFORNIA NATURAL GASOLINE ASSOCIATION, Los Angeles, Calif., October 31.

November

AMERICAN PETROLEUM INSTITUTE, twenty-second annual meeting, St. Francis and Palace Hotels, San Francisco, Calif., November 3-7.

SOCIETY OF AUTOMOTIVE ENGINEERS, West Coast transportation and maintenance meeting, San Francisco, Calif., November 5-6.

AMERICAN ASSOCIATION OF OIL-WELL DRILLING CONTRACTORS, first annual meeting, Dallas, Tex., November 13-14.

SOCIETY OF AUTOMOTIVE ENGINEERS, national transportation and maintenance meeting, Statler Hotel, Cleveland, Ohio, November 13-14.

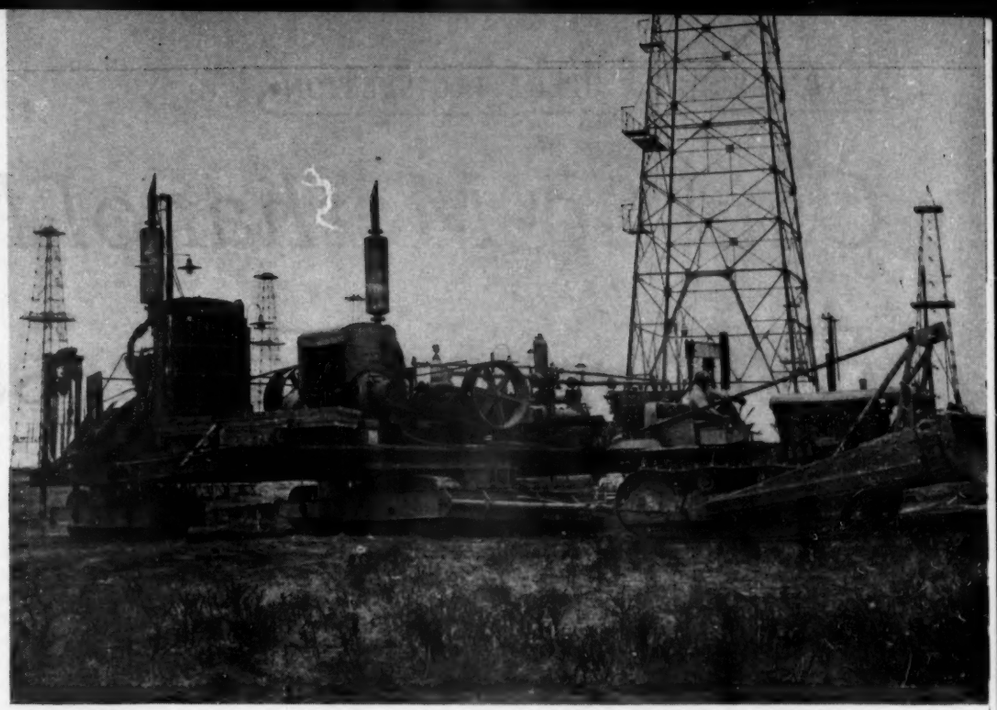
December

EXPOSITION OF CHEMICAL INDUSTRIES, eighth annual meeting, Grand Central Palace, New York, December 1-6.

NEW MEXICO OIL AND GAS ASSOCIATION, Artesia, N. M., December 3.

AMERICAN INSTITUTE OF ELECTRICAL ENGINEERS, Southeastern district meeting, New Orleans, La., December 3-5.

OKLAHOMA STRIPPER WELL ASSOCIATION, Tulsa, December 5.



Unitization of equipment affects even the major pieces of machinery used for drilling deep tests. Accompanying photograph shows circulating mud pump and auxiliary pump and their driving engines all mounted on one skid and being moved on special track-laying wheels pulled by a giant tractor. Photo taken in the Dominguez, California, field

ENGINEERING & OPERATION

In This Section

SEPTEMBER 25, 1941

CAUSTIC-METHANOL MERCAPTAN EXTRACTION PROCESS USED
By H. W. Field ..... Page 40
Octane rating is not adversely affected and in many gasolines is conserved by a new treating process developed by Atlantic Refining Co. Mercaptans are removed by extraction with an aqueous solution of caustic soda and methanol. Lead susceptibility of the gasoline is improved.

GAS-GATHERING AND DISCHARGE SYSTEMS—LOUDEN POOL
By J. R. Randolph ..... Page 46
The Louden repressuring project has been in operation almost 3 years and is the most important venture of its type east of the Mississippi River. Equipment necessary to collect the gas and distribute it to the producing sands in the input wells is described.

COMPLETION METHODS EMPLOYED IN WABASH VALLEY AREA
By F. C. Ploeger and J. R. Vaughan ..... Page 52
A wide range of casing sizes and completion practices is found in the Wabash Valley of the Illinois-Indiana area where as many as five productive horizons are encountered.

USE OF ACID-SOLUBLE CEMENT IN CEMENTING OIL AND GAS WELLS
By R. L. Tracy ..... Page 56
Removal of cement from behind perforated liners and from other undesirable spots in the well is now possible through the use of cement which can be eliminated by the conventional acid treatment. The cement is permanent under all operating conditions and is particularly resistant to brines.

PREVENTION OF PIPE CORROSION HIGHLY DEVELOPED TECHNIQUE
By Starr Thayer ..... Page 60
Improvement in the quality of pipe coatings, better methods of application and the installation of cathodic protection are the principal strides made for protecting pipe lines against corrosion.

REFINING IDEAS ..... Page 43

OPERATING IDEAS ..... Page 62

PROGRESS IN METALS—By W. L. Nelson ..... Page 65

Caustic-Methanol Mercaptan Extraction Process Used

By H. W. FIELD
Atlantic Refining Co., Philadelphia, Pa.

A RADICALLY new refining process developed by Atlantic Refining Co. which removes mercaptans from gasoline and substantially improves its lead susceptibility is described in this article. Octane rating suffers no loss in any gasoline treated by this process and in many gasolines is increased.

The mercaptan removal is brought about by extraction with an aqueous solution of caustic soda and methanol. The caustic is continuously regenerated and the methanol almost entirely recovered. The process is based on existing patents* and a considerable number of recent applications.

For the first time the treating plant, instead of being an expense, can become an asset to the refinery. The tetraethyl lead saving caused by the elimination of octane loss, and the increase in lead susceptibility produced by caustic-methanol extraction, will usually pay all costs of operating the process and in addition yield a profit.

Sweetening by older methods was always a debit item to the refiner, a necessary charge which had to be borne. The cost might be high or low according to the carefulness with which the procedure was carried out, but even under the best conditions the sweetening methods did not improve the gasoline in octane rating, lead susceptibility, or any other property except odor.

The employment of caustic washing units with regeneration was an advance in refining procedure as compared with sweetening alone. Caustic washing in many gasolines produces a substantial increase in lead susceptibility, but usually caustic washing will only partially sweeten gasoline and a substantial proportion of the mercaptans, probably the higher boiling ones and those with branched chains, remain in the oil. These remaining mercaptans prevent the full possible gain in lead susceptibility from being achieved and necessitate subsequent sweetening to produce a marketable product.

The caustic-methanol process in a single operation gives a finished gasoline of sweet odor and almost undetectable mercaptan content. Since only one plant is required, installation costs are lower than when both a caustic washer and a sweetening plant are required.

Operating costs also are low because caustic soda and methanol are comparatively cheap chemicals, the volume of reagent used is small in proportion to the gasoline treated, and the chemicals are almost completely recovered. In fact, the operating costs are comparable to those of operating a simple regenerative caustic scrubber.

Advantage can be taken of the higher finished octane and lower sulfur content obtainable by caustic-methanol extraction in any of three ways:

1. By using less tetraethyl lead and selling a product of the same quality as before installation of the process.

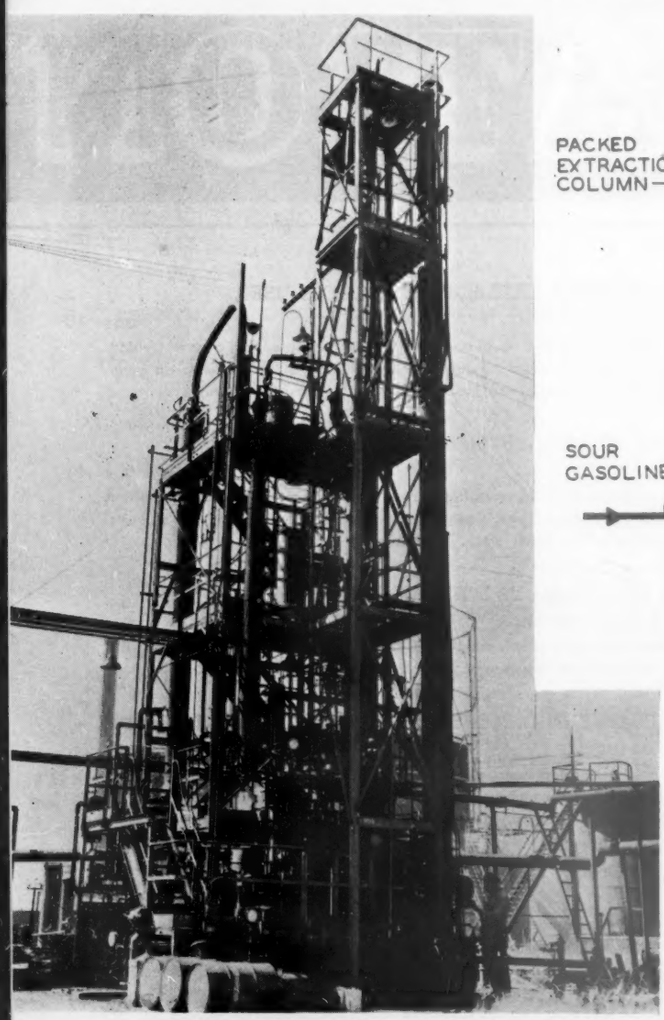
2. By using approximately the same amount of lead and selling a better product.

3. By using a higher proportion of sour crudes.

If a product of the same octane rating as before the installation of caustic-methanol treating is marketed, the lead savings are startling. Few gasolines will show a saving of less than 0.25 cc. tetraethyl lead per gallon, while in some the savings run to as high as 1.0 cc. This will not only pay all the costs of operating the plant but should also yield a significant money return.

The octane increase which the new process makes possible allows many refiners to bring

*U. S. 1968842 and 1968843 (1934); 2043254 (June 9, 1936).



Left—Front view of caustic-methanol pilot plant

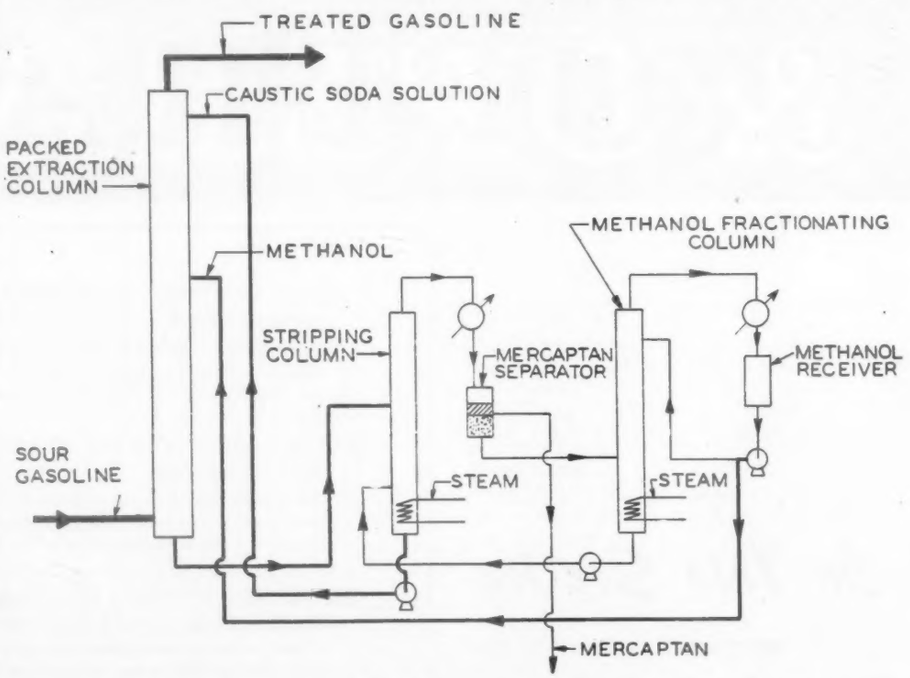


Fig. 1 (above)—Simplified flow diagram of caustic-methanol extraction process

their gasoline up into octane brackets not previously attainable. Some cracked gasolines, which, treated by older methods, cannot be leaded to the octane rating demanded for regular grade, can be brought to that level when caustic-methanol refining is employed and some can be economically raised to the ethyl standard. The increased value of the gasoline may be substantial, because it can be sold as a higher quality.

A considerable proportion of refiners have now reached the practicable limit of octane rating obtainable by leading, and are faced with the necessity of installing new processes, involving costly construction, in order to meet mounting octane requirements.

The caustic-methanol process will relieve much of this need for new plant construction. This is an important consideration at any time, but particularly so during the present emergency, when materials for plant construction and labor are difficult to obtain.

The caustic-methanol process saves in many ways. It conserves:

1. Gasoline which would be lost in other methods of refining as losses, when using caustic-methanol, are very slight.
2. Ethyl fluid, requiring lead, chlorine, and bromine in its manufacture.
3. Chemicals used in refining, including litharge and caustic required by doctor sweetening, and copper salts for copper sweetening processes.

Description of Flow

Fig. 1 is a simplified flow diagram of the caustic-methanol process. A hydrogen sulfide free gasoline is charged to the base of a tall countercurrent extraction column, packed with Raschig rings. Methanol is introduced in the middle of the column and a concentrated aqueous solution of caustic soda is fed in near the top. The column is operated in the conventional manner, the gasoline passing upward and disengaging cleanly at the top. The caustic-methanol solution is drawn from the base of the extraction column and passed to a stripping column. From the stripper, which is fitted with an internal reboiler, methanol and water pass overhead to collect in a separator in two layers, the upper one mercaptan and the lower water-alcohol, the ratio of water to alcohol being regulated to keep it at the point of minimum solubility of mercaptan. In the stripping column, the caustic is regenerated and thence returned to the extraction column. The methanol-water passes from the separator to a small fractionating column, where the alcohol is taken off overhead and is returned to the extraction column, while the water from the base of the fractionating column returns to the stripping column.

A noteworthy feature of the process is the great holding power for mercaptans of the solution of caustic soda containing methanol. Because of this, a low circulation rate of methanol and caustic is sufficient for effective mercaptan extraction. The combined methanol and caustic solution used usually does not exceed 3 per cent of the volume of the gasoline. This low circulation makes it possible to regenerate the caustic with small-sized, inexpensive equipment, using only a small amount of steam.

The low operating costs are due to the fact that there is almost no loss of chemicals. Alcohol losses are generally 0.004 per cent or less of the volume of the gasoline. Total operating costs on an average gasoline, including utilities, chemicals, labor, maintenance, and insurance will be approximately 1 to 1.5 cents per barrel.

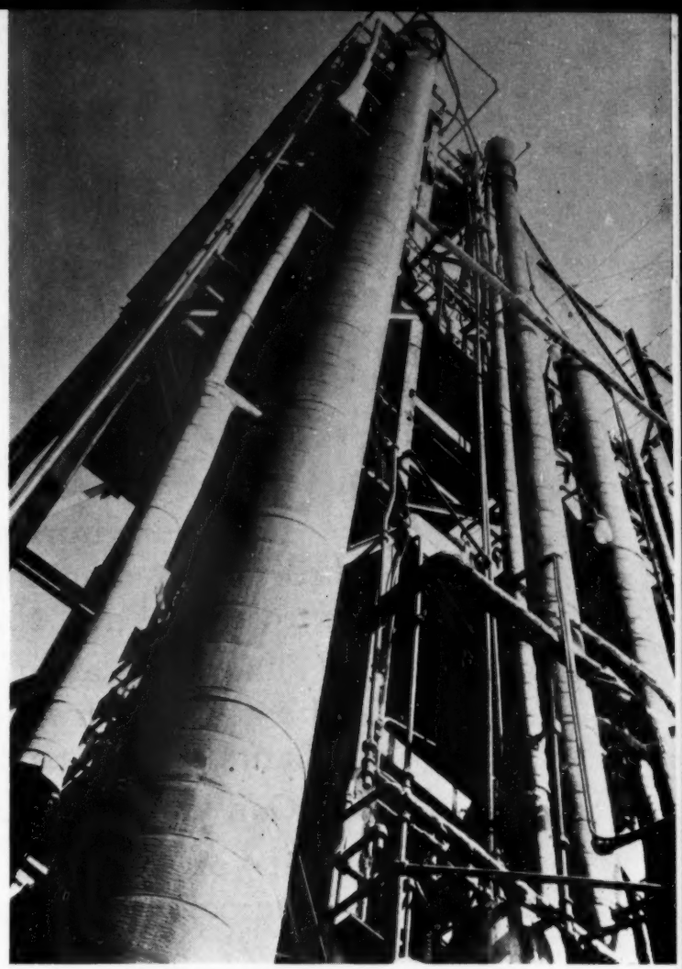
An outstanding feature of the caustic-methanol process is that it can readily handle gasolines of high phenol (tar acid) content. In the regeneration step, the methanol is distilled away from the caustic layer, leaving phenols and any other contaminants which may have come from the gasoline in the caustic solution. Portions of this solution can be discarded without losing any alcohol and without great cost, as caustic soda is a comparaticely cheap reagent.

While it is not advisable to remove phenols from gasoline when they are present in low concentration, some removal is desirable both in the interests of gum elimination and improvement of storage stability when they are present in large amounts.

In most processes employing caustic washing, special preliminary caustic scrubbers must be provided when treating gasolines containing large concentrations of phenols to prevent loss of efficiency of the scrubbing solution by saturation with tar acids and particularly avoiding loss in efficiency of regeneration.

Preliminary scrubbing, except for hydrogen sulfide removal, is unnecessary with caustic-methanol treating. A solution of caustic soda containing methanol is not made less effective for eliminating mercaptans by a high concentration of phenolates. If it is desired to minimize the removal of phenols from the gasoline, they are allowed to concentrate in the scrubbing caustic; if some phenol removal is desired, regenerated caustic can be removed from the system at a rate that will keep the phenols in the gasoline at the desired concentration. The sodium phenolates may be neutralized and phenols recovered.

Inhibitor response of caustic-methanol-treated gasoline is excellent, equal to the best that can be obtained with sweetened gasolines with perfect operation of the treating plants. The uninhibited induction period can be controlled by watching phenol concentration, as just outlined, and a safe increase in induction period and reduction in copper-dish gum to an acceptable figure is readily obtained with synthetic inhibitors.



View of absorption tower of caustic-methanol pilot plant

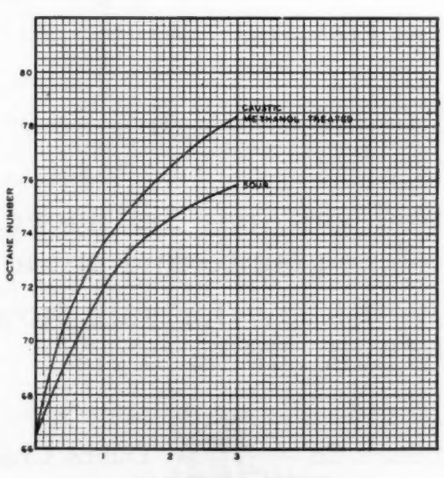


Fig. 2—Effect of caustic-methanol extraction on lead susceptibility of Michigan cracked gasoline

The feasibility of the caustic-methanol process has been thoroughly proved by 10 years' research followed by operation of a pilot plant having a capacity of 100 bbl. per day for more than a year. Typical data from both laboratory and pilot-plant investigations are shown in Table 1. The results on the Michigan gasoline are also shown graphically in Fig. 2.

The gain in leaded octane is substantial in all cases, allowing either notable savings in tetraethyl lead or a notable improvement in the octane number with the same leading. Fig. 2 shows the large lead saving possible with the Michigan gasoline. The West Texas cracked gasoline could not be leaded even to regular-grade quality without extraction, whereas the extracted product was brought into this bracket. The West Texas cracked-polymer blend shown reached 80 octane (Ethyl grade) with nearly 1 cc. less lead after extraction than before.

The caustic-methanol process will be licensed by Universal Oil Products Co.

TABLE 1—RESULTS OF CAUSTIC-METHANOL SWEETENING

Gasoline treated—	Mercaptan sulfur, %		Total sulfur, %		Octane numbers							
					Before treating				After treating			
	Before	After	Before	After	0	1	2	3	0	1	2	3
Laboratory:												
Panhandle Texas	0.061	0.0002	0.15	0.10	63.2	68.3	...	72.2	63.2	69.2	...	73.4
W. Texas cracked	0.18	0.0002	0.77	0.50	66.0	68.8	...	71.4	66.5	70.6	...	74.2
Michigan	0.048	0.0003	0.13	0.10	66.5	72.0	...	75.8	66.5	73.6	...	78.3
Illinois	0.036	0.0002	0.09	0.06	67.1	73.0	...	76.5	67.1	73.8	...	77.8
Pilot plant:												
W. Texas cracked polymer blend	0.0615	0.0007	0.190	0.128	74.0	78.0	80.5	81.5	74.0	80.0	82.2	83.8
Low sulfur cracked	0.0226	0.0003	0.092	0.071	71.7	77.3	79.1	80.5	72.0	78.0	80.0	81.3
Straightrun mixture	0.009	0.0002	0.057	0.049	62.5	70.1	74.7	78.2	64.2	72.1	77.8	80.5
W. Texas straightrun	0.061	0.0003	0.125	0.055	69.8	73.0	76.5	79.0	71.5	78.9	81.7	83.0
High sulfur cracked*	0.050	0.0004	0.248	0.182	68.6	72.8	74.9	76.0	68.8	73.6	75.9	77.0

*Approximately 50 per cent of mercaptans in this stock previously removed by caustic washing.

How about your gas?

If you are burning gas for fuel just as it comes from your cracking plant stabilizer, here is an interesting and simple problem in arithmetic:

There are about 2200 B.t.u. in a cubic foot of the *average cracked stabilizer gas*, or 2,200,000 B.t.u. per thousand

Can you afford to burn it as is?

If you run that gas through a U. O. P. catalytic polymerization unit it will give you about 5 to 7 gallons of polymer gasoline per 1000 cubic feet — 81-83 octane number — and you will have about 70 per cent of the gas left for fuel, still of high B.t.u. content

You know how much fuel gas is worth in your plant and you know what you can get for 81-83 gasoline

Take your pencil and figure how much you may be losing

Your cracked gas may be above or below average — we'll be glad to find out and tell you

Then you will know for sure how valuable a U. O. P. poly unit will be to you

Universal Oil Products Co
Chicago, Illinois

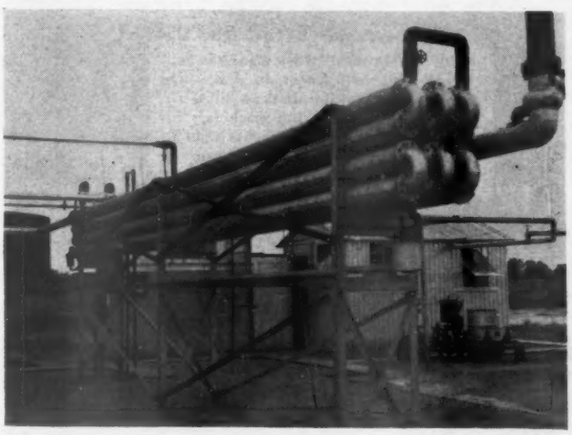
Dubbs Cracking Process
Owner and Licensor

Refinery IDEAS

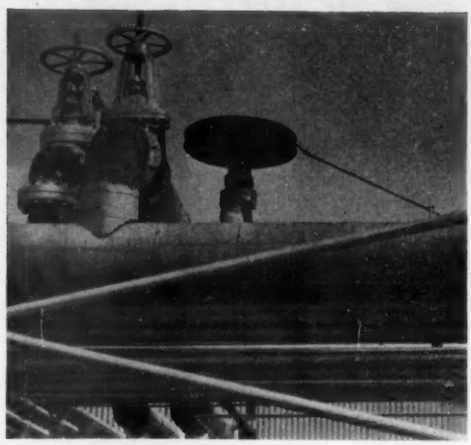
. . . that save $ $ $

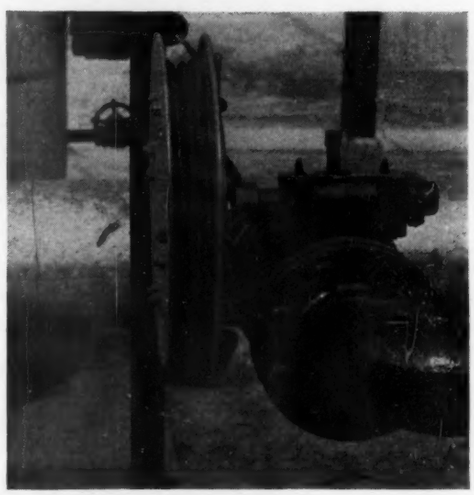
Exchanger Supports Designed To Permit Easy Moving

The rack supporting the three banks of exchanger tubes shown here was designed to handle a temporary job and then be moved to a series of other locations. In this refinery the exchanger was used to preheat crude tank bottoms with steam to recover the oil. The steam connection can be seen on the center tube-bank in the foreground. The construction of the rack is practically self-evident, the break in the frame occurring immediately below the cross arms of the frame. The height of the frame easily permits the assembly to be loaded on an oil-field truck and trailer.



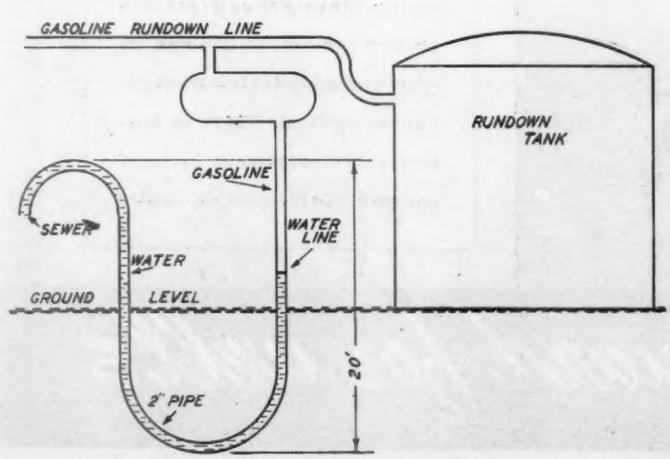
Cable-Operated Controls





Emergency controls for dropping out tower bottoms, shutting off oil and gas lines and flooding the interiors of buildings with steam have been supplied in one new plant by use of cables, pipe conduits and cable drums mounted on valve stems. In the upper picture the terminal for the cables is shown. The end of each cable is securely fastened into a handle and the pull of the cable horizontally is at a level to permit a man to exert the fastest and greatest force. The cables mounted on the valve drums are shown in the other pictures. The plug-valve mounted at the left of the pulls is not a part of the cable system but is a part of the safety plan. The valve closes a compressed-air line and when the valve is opened, the air pressure in the line is reduced and the engines in the compressor room are halted.

Trap Water in Rundown Line



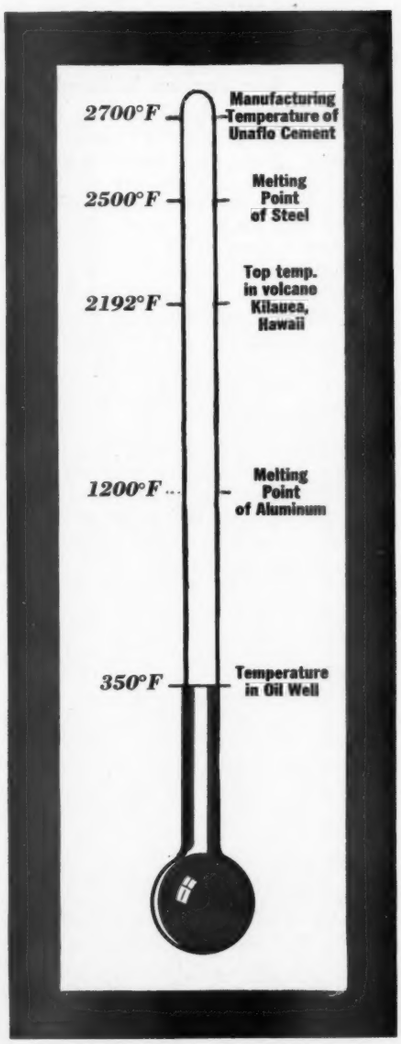
Open steam is often used in a refinery still to reduce the vapor pressure of the oil and thereby increase the overhead for any given still temperature. There are other reasons for using steam and regardless of its purpose the steam must be separated as water later in the operation. A simple, continuous separator has been in use in a Mid-Continent refinery for this purpose. It consists essentially of a U-shaped 2-in. pipe one leg of which is longer than the other. The longer side serves as the drain from a small flow tank in the rundown line while the shorter portion empties into the plant sewer system. During the distillation procedure any water carried in the condensed oil stream and going to the rundown tank is first trapped in the little tank. Then it flows down through the U-pipe. Since oil is lighter than water the oil in the leg of the connecting pipe is replaced by the water. The elevation of the U has been predetermined to provide for balancing the oil column against the shorter water column so that whenever water enters the U, it forces a proportionate quantity of water into the sewer without disturbing the oil level.

8 TIMES HOTTER THAN A HOT OIL-WELL
IMPROVED
. . . made at
● Just as Universal Atlas made the first retarded oil-well cement, so it was the first to use rotary kilns. In these kilns, the largest pieces of moving machinery in industry, the temperature reaches 2700°F. —almost twice as hot as a volcano — 8 times hotter than a hot oil well.
How to get UNAFLO
Unaflo, the improved retarded oil-well cement, is handled by representative dealers throughout the oil field. Use it to protect your investment in tools and well. Get it from your dealer
UNAFLO
Universal Atlas Cement Co.
Oil Well Cement
A safeguard for wells

UNAFLO CEMENT

temperatures hotter than a volcano

Here is Your Assurance of Safer Cementing and Greater Protection Against Drilling Loss!



THESE tremendous kilns, working at a temperature one-fifth that of the surface of the sun, prepare *improved* Unaflo oil-well cement! This is hotter than found in a volcano — hotter than needed to melt steel.

Improved Unaflo provides a high factor of safety at well temperatures up to and exceeding 350°—at pressures above 7,500 pounds—at depths exceeding 14,000 feet.

Unaflo, the original retarded oil-well cement, has made enviable records in all kinds of cementing jobs—cementing casing, plug-back operations, squeeze cementing, cementing liners, and recementing operations. It has successfully stood the test of use to depths of 14,000 feet and deeper. It has performed successfully under pressures up to and exceeding 7,500 pounds, and at temperatures from 100° to more than 350°F. Because of its retarded set, it has remained fluid and pumpable after unforeseen delays and shutdowns.

Field performance as well as laboratory tests show these advantages are true also for *improved* Unaflo.

The makers of Unaflo, the original retarded oil-well cement, did not believe in standing still. Could they further improve a product you found so satisfactory? This is the job they tackled with the first shipment of the original Unaflo. They studied not only the methods of manufacture but also the results in the field. And the outcome is gratifying.

Improved Unaflo is much more uniform in composition and in cementing operations. Its curve of retardation is smooth, from the standpoint of cement down the well, of changing temperature, of the kind of mixing water used, of unpredictable hazards and delays in cementing. Thus, *improved* Unaflo offers a higher factor of safety—greater insurance against loss.

CHARACTERISTICS OF *IMPROVED* UNAFLO

As shown in the field and laboratory

REACTS uniformly with different types of mixing water found on different jobs;

REQUIRES less mixing water;

PERMITS use of heavier slurry that assures denser, stronger, more impermeable seal

MAINTAINS fluidity regardless of well temperature and subsurface conditions;

REMAINS easily pumpable after shutdowns for extended periods;

IS DEPENDABLE for squeeze jobs;

PROVIDES higher factor of safety.

Down-the-well performance as well as laboratory tests show that *improved* Unaflo is even more reliable in overcoming the unpredictable hazards of cementing, and in minimizing the chances of failures. So take the guesswork out of your cementing operations—play safe, and insist on Unaflo oil-well cement. Universal Atlas Cement Co. (United States Steel Corp. Subsidiary), Amicable Building, Waco; Oklahoma City; Kansas City; Chicago; Birmingham.

UNAFLO OIL-WELL CEMENT

Gas-Gathering and Discharge Systems—Louden Pool Repressuring Project

By J. R. RANDOLPH
Carter Oil Co., St. Elmo, Ill.

ALTHOUGH much has been written on the Louden repressuring project, particularly regarding gas injection, the actual gas system and equipment for conveyance of casinghead gas from producing wells to the compression plants and thence into the reservoir through input wells have received little discussion. Since the beginning of operations in November 1938 vast expansion has taken place and a number of improvements have been made in both the gas-gathering and the discharge systems. All equipment and installations have been completely standardized, and producing schedules have been so arranged as to assure a continuous supply of gas to the system.

Originally designed on the basis of engineering and geological estimates of future gas potentials and pool extent, the gathering system is now being further extended to serve a total of 173 leases from which some 19,000,000 cu. ft. of gas is produced daily. Seventy-one miles of welded pipe line ranging in size from 2 in. to 16 in. are required to carry this gas from lease tank batteries to the two compression plants which are capable of a daily throughput of 17,000,000 cu. ft. Casinghead-gas content ranges from 4 gal. per thousand cubic feet in richer areas to 0.6 gal. per thousand cubic feet in gas-cap regions, with the average falling at about 2.14 gal. per thousand cubic feet.

Gas and oil from producing wells flow through a common flow line into the lease separator or tank battery. Each separator is maintained under pressure by two regulators, one on the gathering-system line and one on the vent line. The latter regulator is set to open at a slightly higher pressure than the former in order that separator gas will escape at the vent only when the flow is so great that the gathering line cannot handle the total volume. As illustrated by the flow diagram, Fig. 1, a second regulator is placed immediately downstream from the pressure-actuated lease regulator. These vacuum-operated regulators, set only on leases which produce excessively dry gas, are adjusted to open when the gathering line vacuum exceeds 5 in. of mercury. In this way the field gas of lowest gasoline content is vented until the supply to the plants falls and causes a vacuum on the lines, at which time the various vacuum-actuated regulators open and admit the lower gasoline content gas into the lines to maintain the supply to the plants.

When wells are tested for oil potential or when no separator is needed at the battery, oil and gas flow is routed directly into the tank battery. Tank thief hatches hold 8 oz. pressure on the welded steel tanks, causing gas to leave through the 3-in. overhead vent line. Escape of this gas at the vent-line riser is prevented by a stack valve set to open at a pressure slightly lower than that held by the tank hatches. A regulator on this line, shown in Fig. 1, is set to open at approximately 1 oz. pressure to admit gas from the tank battery into the gathering lines. The orifice meter measures all gas entering the system from the lease.

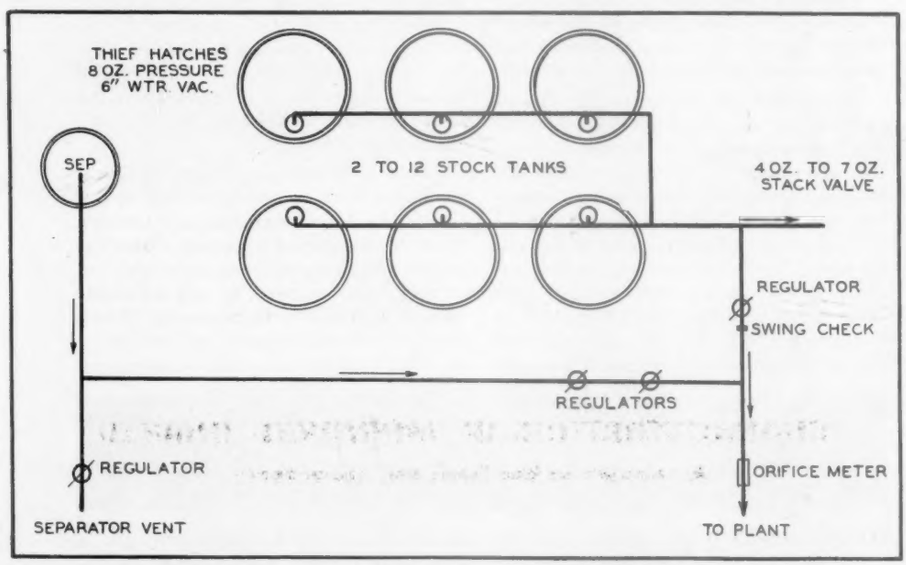


Fig. 1—Flow diagram of the Louden gas-gathering system tank-battery hookup

A.P.I.—Paper presented at Illinois Basin chapter, American Petroleum Institute meeting, Robinson, Ill., September 13, 1941.

Before installing check valves below the battery regulator, it was discovered that whenever pressure was placed upon a section of the gathering system by leases producing large volumes of gas, backflow through the regulator and into the tanks and nearby leases caused a considerable loss of gas. Use of flanged swing checks, which are inserted in the flanged regulator connection and which utilize a neoprene-against-metal seal, has eliminated this loss and also facilitates pressuring of lines for blowing drips. Since the vapor-tight tank battery is held under very slight pressure, accuracy of controls is of utmost importance.

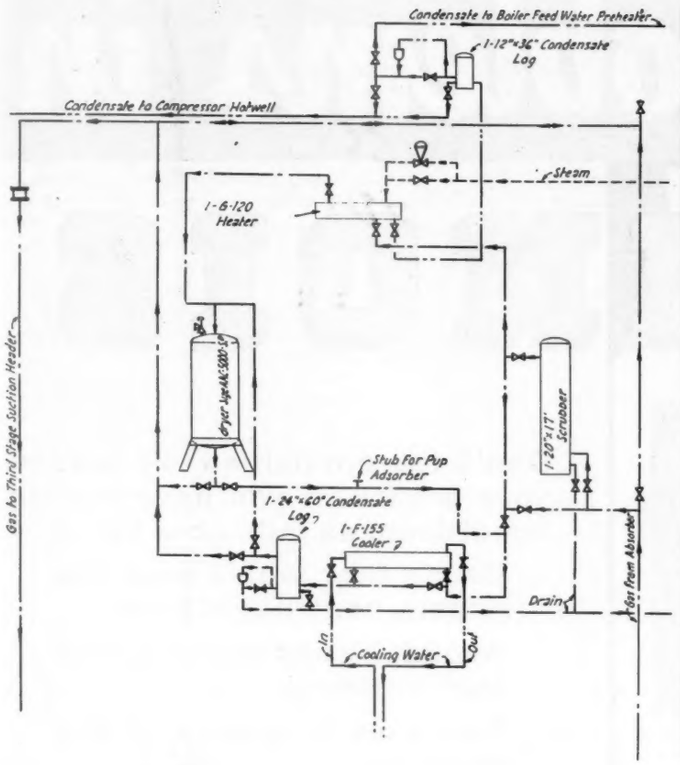
How Vacuum Is Supplied

Vacuum for the gathering lines is supplied by the suction of the low-stage cylinders of two compression plants. Four angle-type compressors at the Dove plant produce 1,200 hp. while 12 horizontal units at the Taylor plant have a total rated output of 2,760 hp. Compression from 8 in. of mercury vacuum to 650 lb. per sq. in. is accomplished in three stages, the first exhausting at 40 lb. per sq. in., the second at 200 lb. per sq. in., and the final stage supplying 650 lb. per sq. in. gas to the injection lines. The gasoline, propane, and butane content of the gas is extracted by absorption after the second stage of compression. Sufficient gas for plant operation, sales, and miscellaneous field use is also taken from the main system previous to the final compression. A non-return globe valve in the high-pressure lines immediately outside the plants is designed to act as a safety valve against return of gas from the system to the plant in case of emergency.

The Louden gas-injection system is built entirely of 2-in., 3-in. and 4-in. welded line. At present, 79 input wells are served by 33 miles of line, with about 15 additional wells to be drilled and 5 miles of high-pressure line yet to be laid. Through the present 79 well bores gas is being injected into a total of 135 individual sand faces.

Freezing of moisture in high-pressure lines was experienced at the very commencement of repressuring operations. Since the gas is saturated with water vapor when it is discharged into the input system, any drop in temperature will cause precipitation of moisture and any large drop in temperature will cause freezing. This condition was most prevalent at the individual well control valves, where sudden expansion across the small opening of the valve caused freezing, which shut off the flow until atmospheric heat effected melting, after which gas flow was resumed only to cause freezing again. First attempts to eliminate this condition included local injection of alcohol and introduction of ammonia into the gas system. Both methods were unsuccessful.

In order to remove sufficient moisture from the gas leaving the plants that no temperature prevailing at any point in the injection system would cause precipitation, an adsorption-type dehydrator unit was installed at each of the two plants. Although different in design, the two dryers employ the same principle of bringing the gas into intimate contact with a granular porous substance which has the power to adsorb water onto the



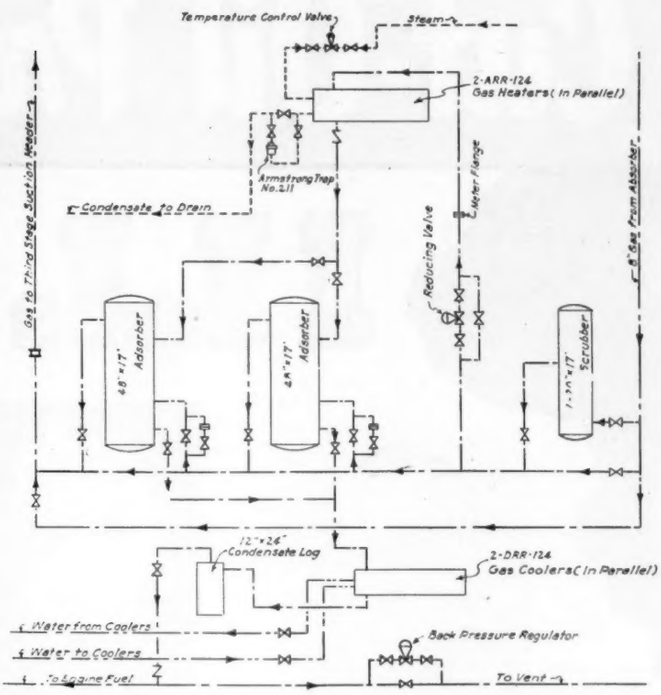


Fig. 2 (left)—Flow diagram of gas dryer unit at the Taylor Gasoline plant. Fig. 3 (above)—Flow diagram of dehydration unit at Dove pressure-maintenance plant

large surface area exposed to the gas stream. Residue gas is taken directly off of the gasoline absorber at 200 lb. per sq. in. for this treatment. Operation of the two types of gas dryers has been remarkably different.

The unit installed at the Taylor or main plant is of the single-tower type and is filled with 6,000 lb. of activated alumina as the adsorption agent. Gas is passed first upward through a 20-in. by 20-ft. alumina-filled scrubber tower for removal of entrained absorber oil. After passing through a gas cooler which causes precipitation of some moisture into a condensate accumulator, the gas enters the top of the main 4-ft. by 17-ft. alumina-filled adsorption tower. Emerging from the base of the column with very slight water content, the gas proceeds to the suction of the third-stage compressors. Reactivation of the bed when it becomes saturated with water is accomplished by circulating steam-heated gas at approximately 360° F. and 200 lb. per sq. in. through the bed for about 2 hours to remove all moisture from the alumina. Completion of the activation cycle is indicated by elevation of the temperature at the bottom of the bed. Although the original design of the unit called for passage of this reactivating gas into the injection system on the contention that the majority of its water would be lost at the after cooler and the remainder would be quickly taken up by the highly dried gas following, after the tower was again placed on drying service, experience has proven that, for satisfactory operation, this wet gas must be vented. The drying plant is designed for a throughput of 7,000,000 cu. ft. of gas per day entering the tower saturated at 70° F. and discharging with a 0° F. dew point. This drying capacity is consumed by the Taylor plant throughput in a day or less, so that the reactivation cycle results in 2 hours or more per day in which no dry gas is available for sales or delivery to input wells. Fig. 2 is a flow diagram of the cycles just described.

After 500,000,000 cu. ft. of gas had been dried by the unit, tests showed the adsorbent properties of the alumina had suffered materially. Inspection showed that pollution of the bed by hydrocarbons and sulfur were responsible for a reduction in dry throughput capacity to 1,000,000 cu. ft. daily. Regeneration of the unit by circulating an electrically heated mixture of nitrogen and carbon dioxide at 800° F. to distill off the contaminating oil, firing with gasoline that part of the alumina which still evidenced oil pollution, replacement of corroded retaining screens, and substitution of activated charcoal for alumina in the precontact tower was found to improve the capacity of the unit to 5,000,000 cu. ft. per reactivation for 60° F. inlet gas and reactivation cycles of about 3 hours each. After that time the drying capacity again steadily decreased until only 1,000,000 cu. ft. could be dehydrated before reactivation. Backwashing the bed with 23,000 gal. of propane raised the capacity temporarily. Finally a complete new charge of alumina in the tower increased the throughput to about 3,500,000 cu. ft. of 78° F., 200-lb. gas per reactivation, which was still not sufficient for gas-injection operations.

Towers Operate Alternately

At the Dove plant the drying unit employs the same principle of adsorption but depends upon two 4 by 17 ft. drying towers filled with hi-florite as the adsorbent. The two towers are arranged to operate alternately, one being reactivated while the other is on the line. As in the Taylor plant unit, a precontact alumina-filled vessel is used to clean the gas of hydrocarbons before it enters the drying tower. As shown by the flow diagram, Fig. 3, the gas moves upward through the drying tower where it first contacts 600 lb. of unimpregnated florite and then passes through the main body of hi-florite or florite impregnated with manganous chloride. No cooler is used in the drying cycle of this unit. During reactivation steam-heated gas at 290° F. and 35 lb. per sq. in. is passed downward through the bed for an 18-hour period, followed by 6 hours of cooling time before the tower is ready for drying service. Regenerating gas drops some of its moisture in the accumulator at the base of the tower and the remainder is removed in an aftercooler, whence the gas proceeds to the plant fuel system.

Capacity tests in August 1940 showed the dryer to be capable of reducing 6,000,000 cu. ft. of 86° F. gas with a 70° F. dew point to a dew point of minus 11° F. at 195-lb. operating pressure before reactivation became necessary. Periodic capacity tests after that time established the limit of throughput at 6,500,000 cu. ft., under a practice of regenerating every other day after passing 2½ million cubic feet. Increase of the daily throughput to about 3 or 3½ million cubic feet in recent months has been accomplished with completely satisfactory drying operation. Only very recently did the first trouble occur when the top part of one dryer bed showed evidence of channeling and it was discovered that an excess amount of florite had decomposed and pulverized. The tower was flushed with high-velocity gas to blow out the florite dust to the air, after which tests showed no appreciable change in the drying capacity of the unit.

There is no difference in investment cost between the single-tower unit and the dual-tower installation. The chief advantage of having two columns is the ability to pass dried gas into the injection system at all times, while a single-tower installation cannot supply dry gas for a few hours daily. The most important difference in operation of the two units is that the single-tower plant must be reactivated with 200 lb. per sq. in. heated gas to complete the reactivation quickly, while the two-tower type uses 35-lb. heated gas and utilizes a much longer regeneration period. Failure of the one-tower unit at the Taylor plant can probably be charged to insufficient protection of the main bed from oil contamination, since no provisions for reactivation of the precontact tower were contemplated by the manufacturer. Due to the present limitations of this unit, it is planned to install another tower to convert it into a two-column-type dryer similar to that at the Dove plant.

Surface equipment at field input wells, exclusive of the well-head assembly, includes controlling and metering equipment. The gas line

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ties directly into a 1-in. plug valve which is opened just enough to allow the desired volume to pass. Immediately downstream from the control stop is the 3-in. by 19-ft. meter run with orifice meter permanently installed. A combination union and spring actuated check valve on the riser to the well head is designed to prevent backflow from the well in event of falling plant pressure or line breaks. In the case of a two or three-sand injection well, the gas stream is split to pass through two or three control stops, meters, and check valves to effect individual control and metering for each sand.

The input well-head assembly, illustrated by Fig. 4, for a three-sand input well is different in appearance from a two-sand injection well head only in the use of the 1-in. slip-type tubing hanger and the 1-in. plug valve on the inner tubing string. As shown by the figure, all head connections are flanged and the entire assembly is designed for high pressures. By use of a special tool another 2-in. valve may be installed or removed under pressure in place of the 2-in. removable plug in the casing connection. In the case of a single-sand well, the bowl-top tee is eliminated from the christmas tree and a 2-in. round-opening plug valve flanged on in its place, the top of the valve being closed by a tapped bull plug with bleeder valve. Two-inch tubing is used in single-sand wells for gas lifting to remove fluid from the hole and in two-sand wells with a packer for injection into the lower sand.

Practice is to set casing through all sands with entry into the formation being gained by gun perforating. Ring-type hook-wall packers in two-sand wells are usually set just below the upper-sand perforations with casing and tubing serving for injection strings to the upper and lower sands, respectively. Two packers and a special bottom-hole valve assembly are used in conjunction with the special input well-head manifold to obtain isolation of the three horizons in three-sand wells. Fig. 5 shows the relative positions of the bottom-hole equipment. The lower packer, which is set just below the Paint Creek or middle-sand perforations to separate that horizon from the bottom or Bethel sand, is a 6 by 2½-in. UE production type hook-wall packer fitted with neoprene rings identical with the type used in two-sands wells. A 6 by 2½-in. UE well washer anchor packer equipped with neoprene rings, a special keyway, and shear pins is set between the Weiler or upper sand, and the Paint Creek. Inserted in the 2½-in. tubing string between the two packers is a special double-well bottom valve assembly used to separate the 2½-in. annular space and the internal string of 1-in. tubing which is seated on top of the valve. Detail drawings in Fig. 5 illustrate the mechanical operation of the valve.

Installation of Three-Sand Assembly

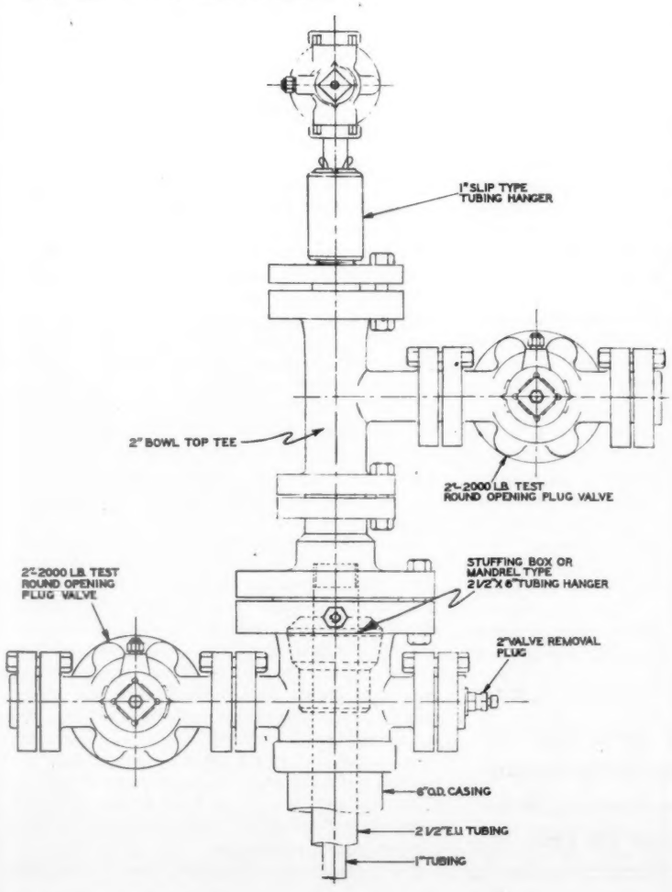
Installation of the three-sand assembly in the hole at the desired depths has been accomplished without difficulty. The subsurface equipment is lowered on 2½-in. tubing in the conventional manner. The hook-wall packer is turned to its setting position by rotating the 2½-in. tubing at the surface, the keyway in the anchor preventing loss of motion in the sleeve of the upper element. Shear pins in the upper packer insure proper seating of the lower packer before the upper element is expanded. Special features incorporated in the head and bottom valve permit movement of the tubing strings while the well is under pressure.

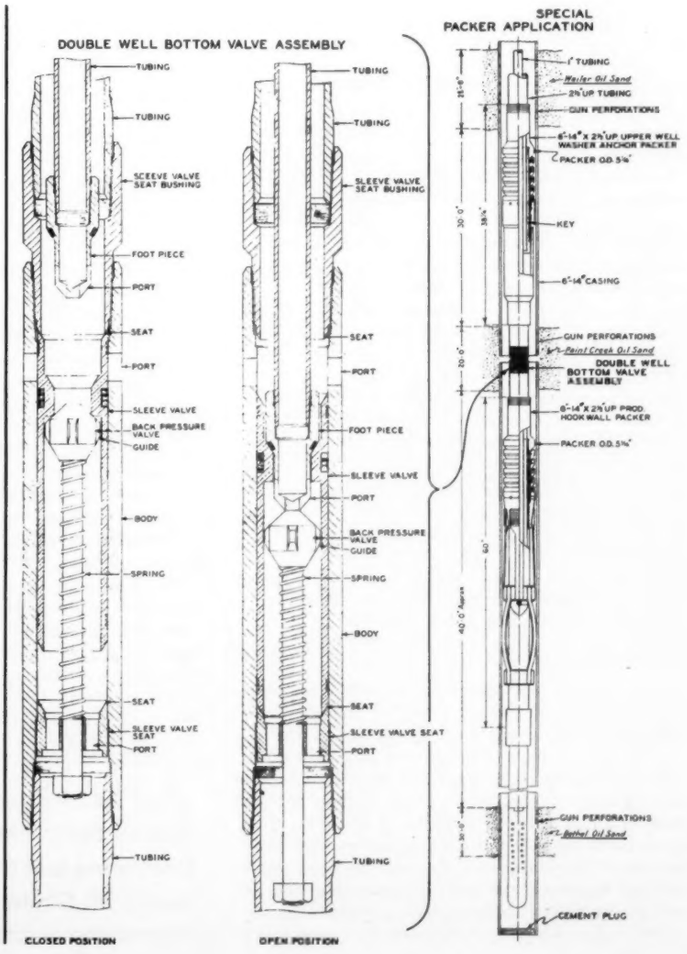
The equipment described above has been especially designed for gas lifting of a three-sand well with a minimum of surface operations. After running the 2½-in. tubing, a special slip joint and mandrel is attached to the top of the string and it is then hung in the top flange of the well head rather than the bowl. The mandrel is held in place in the bowl by set screws in the lower flange of the head. Thus, movement of the 2½-in. tubing may be made through the gland of the mandrel while the casing annular space is under pressure. The slip joint and mandrel are indicated by broken lines in Fig. 4. Before setting the packers, the 1-in. tubing string can be run to open the bottom well valve assembly as shown in Fig. 5. When the small tubing is hung in the slip-type tubing hanger, the two tubing strings may be moved as a unit. With packers unseated and the bottom valve held open by the 1-in. string, the well may be gas lifted by introducing gas into the casing annular space and flowing the well through both tubing strings. The packers may then be set without removing the 1-in. tubing or taking pressure off the sands. The design of the bottom valve permits complete removal of the small tubing while the well is under pressure, as there is sufficient upward movement through the 1-in. hanger permitted to unseat the foot piece and allow the bottom valve assembly to close. Pressure can then be bled from the tubing strings and the 1-in. removed from the hole.

Although many minor parts of the systems have not been described, the general layout of the Louden gas-gathering and discharge systems has been discussed. Gathering of gas from leases under the present setup presents very few problems. By injecting gas into the center of sunflower patterns, each input well influences eight producing wells and each producing well is af-

(Continued on Page 58)

Fig. 4 (below)—Three-sand gas injection well christmas tree. Fig. 5 (right)—Subsurface equipment of three-sand gas injection well


1" SLIP TYPE TUBING HANGER
2" BOWL TOP TEE
2"-2000 LB. TEST ROUND OPENING PLUG VALVE
2"-2000 LB. TEST ROUND OPENING PLUG VALVE
STUFFING BOX OR MANDREL TYPE 2½"X 6" TUBING HANGER
2" VALVE REMOVAL PLUG
6" O.D. CASING
2½" E.U. TUBING
1" TUBING



Completion Methods Employed In Wabash Valley Area

By F. C. PLOEGER and J. R. VAUGHAN
Sun Oil Co., Evansville, Ind.

DUE to the number of producing horizons and the lenticular nature of these producing formations in the Wabash Valley, this area offers quite an interesting study of casing practices and methods of completion. Because of this condition we have compiled some data on the practices of various operators in this section.

We found a wide range in sizes of casing used, varying from 7-in. o.d. to 4½-in. o.d. for the oil string. Seven-inch o.d. casing has been used in the greater number of instances and is preferred because it permits the use of larger shots in the sand and the deepening of wells to lower horizons, leaving room for an inner string or a liner. Cleanout time after shooting has been reduced as against smaller strings of pipe.

Five and one-half inch o.d. 14 and 15-lb. casing has also received extensive use, and a 3,000-ft. string offers a saving of $750 over a similar string of 7-in. However, experience has shown that after shooting, the additional time required to clean out in the small hole will offset the saving in pipe.

Four and one-half inch casing has been used in some instances but not extensively. It has proven very satisfactory where wells have been shot with light shots. Where it is expected to shoot the well with large shots, such as from 10 to 20 qt. per foot, this size of pipe is not in common use.

Five Horizons Sometimes Encountered

In drilling wells in this area it is not unusual to encounter as many as five possible producing horizons, consisting of McClosky lime, Aux Vases, Benoist, Cypress, and Tar Springs. When this condition is encountered, attempts have been made to produce two or more of these formations in the same oil string. This has been done by the use of removable casing of several kinds, the most common being an aluminum alloy. This can be removed by a wall-scraping tool or by shooting. A magnesium-alloy pipe has also been used to place opposite an upper producing horizon which can be removed by a wall scraper, by shooting, or by the use of acid. Because of the inability to obtain aluminum pipe, a low-carbon, light-steel casing has been substituted. This has been effectively removed by wall scraping.

Aluminum alloy has been given preference due to its resistance to corrosion and because the properties of this pipe more nearly approach the requirements of the operator, relative to the selection of steel casing. In the use of aluminum-alloy pipe we found that it is not affected by corrosion of chemical action and can be left intact in the oil string until such time as it is desired to remove it.

The demand for aluminum for other purposes has reduced the supply available for the manufacture of aluminum-alloy casing, and as a result the operators have been forced to substitute a black merchant pipe. This is a lightweight pipe having a low carbon content, varying from 10 to 18 per cent, and a tensile strength of 40,000 lb. This pipe costs only 10 per cent of the cost of alloy casing. It is plain end, and can be used with welded slip couplings and for this reason can be cut to the desired lengths. It is attached to the pipe with a complete weld around the coupling and in some cases three holes have been drilled in the coupling and it is welded to the pipe by building up inside these three holes. The use of sections of this pipe in the string requires careful handling. If any obstruction is in the hole and the pipe fails to go through without forcing, the string should be pulled and the hole reconditioned.

The low mechanical properties of alloy and the low-carbon casing require much care in handling and running. To avoid any possibility of damaging the joints in making up the threads, chain tongs are used, being placed at least 12 in. from the end. Power tongs should never be used.

Reaming Method

In many cases it was not possible to secure drillable pipe, so regular steel casing was set through the upper pays. In doing so, the couplings were placed above and below the pay zone, which would eliminate ripping or shooting a coupling when opening.

The method of reaming has proven very successful. A regular blade will cut out the alloy pipe, while a tool-steel blade is required to cut out the low-carbon pipe. The latter has been replaced by a regular blade having a tool-steel insert which is capable of cutting 60 ft. The low-carbon pipe will ream out at a rate of from 4 to 5 ft. per hour, which is a little faster than the rate of removing alloy casing.

This method is the safest and most preferred, but unless the operation is performed while rotary is still on the well it is usually substituted for by one of the other methods due to the high cost of moving in and rigging up. However, in some cases a portable rotary was moved in and the section reamed out, using 2⅞-in. drill pipe or 2½-in. EUE tubing. This is an expensive practice and is not often used.

One operator found that a cable-tool underreamer with a rasp-type blade was the fastest and most economical method available.

Numerous plug-back jobs have been made in this area where wells have been completed in one of the lower formations with no provision being made at that time to produce any of the upper horizons. Where the lower horizon has proven unsatisfactory, or where the production decline has made the well unprofitable, the operators have successfully plugged such a well with gravel and Calseal, the top of the Calseal being placed at the base of the horizon to which they intended to plug back. In some instances, in place of the gravel filler, bridging plugs have been used with Calseal being placed on top of the plug. In the majority of cases of this kind, the casing has been ripped and a test made of the formation to determine the presence of water at the level plugback was attempted. The casing is then shot away, the size of shot ranging from 3 to 4 qt. per foot. In most instances this shot has been placed for the purpose of clearing the casing from the hole and shooting the formation for production at the same time. This practice has been very successful where sufficiently heavy Calseal tamps have been placed above the shot. There have been a few cases recorded where the casing was splintered and some difficulty was encountered in cleaning out the shot hole, but in the majority of cases the shot has cleared the hole of pipe very successfully.

When completing a single sand or in shooting the lower pay first, various size shots have been used. In areas where the sands require heavy shooting, the first shot used is around 2 qt. per ft., which is followed by a second shot of from 9 to 20 qt. per ft. The use of second shots at the time of completion is becoming very common due to the great increase found in production as a result of reshooting old wells. One well was pumping 60 bbl. per day from a 20-qt. per ft. shot and after a second shot of 17 qt. per ft. or 400-qt. total, the production was increased to 200 bbl. Another well completed in October 1940 swabbed 210 bbl. naturally. Recently the production dropped to around 40 bbl., and after shooting for the first time with about 4 qt. per ft., a swabbing test showed 200 bbl. in 15 hours.

Opening Upper Horizons

Where the operator desires to produce two or more pays simultaneously in the same string several methods have been practiced in opening the upper zones. A great number of wells have been completed by first shooting the lower horizon with nitroglycerin and after testing same, to gun-perforate the upper sands. As a general rule the increase in production after opening the upper pays was negligible; it would often rise at the time of shooting but rapidly declined to normal. Such results may be credited to the low permeability of the sand. The use of the gun perforator has been very effective in one area when opening the Waltersburg sand. One well typical of the area was swabbing 141 bbl. per day from a lower pay, and after shooting with nine ⅝-in. bullets per foot in the Waltersburg sand it swabbed 216 bbl. per day.

Due to the many variations of the sand properties from well to well, accurate tests as to the most efficient number and size of shots have been difficult to ascertain. However, the general practice throughout the area has been to use six ⅝-in. or ¾-in. bullets per foot. Another method frequently used is to rip the casing or window, the results of which show a slight increase in production as compared to gun perforating. Most operators have abandoned the practice of gun-perforating and ripping pipe opposite sands of low permeability since in most cases it was not profitable and in no case was it the most efficient, as similar wells shot with nitroglycerin have a much higher production.

The method most commonly used is to shoot

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the upper pay with nitroglycerin. The lower one having been completed, a bridge is placed 30 to 50 ft. below the bottom of the upper section. This space is then filled with gravel or Calseal. When Calseal is used it is stopped around 10 ft. below the window and gravel is then used to fill about 3 ft. up in the alloy pipe. A ½ to 4-qt. per ft. shot is placed (depending upon the formation), leaving about 5 ft. below the top of the window for a gravel tamp, which in turn is tamped with 100 ft. or more of Calseal.

In using the above method, many difficulties have been encountered. After cleaning out the shot hole, the lower section of pipe has often been found to be collapsed or moved to one side of the hole, making it very difficult and in many cases impossible to enter the casing with tools. The tools have often battered or bent the walls of the pipe directly below the shot, which has been greatly remedied by placing gravel below the shot, making it possible to sand pump into the lower section of pipe rather than start drilling at that point.

In several instances while drilling out the bridge or cleaning out the lower shot hole, cavings or pieces of pipe have been known to drop into the casing from the upper shot hole and foul the tools. Such accidents have resulted in expensive fishing jobs, and in some cases the hole was lost below the upper pay.

In a few cases the upper pay has been shot and tested before the cement plug was drilled. A more common practice is to drill the cement plug and place a shot in lower pay. The tamp is used for a bridge and a shot is placed opposite the upper pay. After the upper shot goes off, the hole is cleaned to the bottom. In addition to the same difficulties encountered by the previously mentioned method, two other disadvantages are attached to this practice; namely, it is impossible to obtain a production test on a lower pay after the pipe has been removed in the upper section, and it is necessary to clean out the lower pay through the upper shot hole, which is very risky, especially if the pipe has been damaged.

Completing Lower Sand

The method of completing the lower sand and then reaming out the alloy sections above has been frequently used. This method is very advantageous when the upper pays will produce efficiently without shooting, which is seldom the case in this area. When heavy shots are placed in sections previously reamed out, the same difficulties are encountered as when shooting out the windows. Thus the cost of keeping a rotary on location or moving back to ream out these sections is considered extra expense, since both operations of removing pipe and shooting for production can be performed in a single operation by cable tools at any time desired.

It is also possible to ream out the upper sections and test prior to drilling the cement plug, but as before, the general practice is to open the pays from bottom to top so as to permit swabbing from the zone opened. When shooting is planned the face of the sand is often reamed to 9½ in., which will usually permit a second 4-in. shell to pass by the first, thereby making it possible to double the size of the shot.

In many wells, 7-in. casing was set on the Cypress, and later the Bethel and Aux Vases proved to be productive. The Cypress being very weak, the wells were deepened with rotary to a casing seat above the Aux Vases. A 5½-in. liner containing an alloy section to be placed opposite the Bethel was set and cemented with 30 sacks of cement. The alloy pipe was then reamed out, the plug drilled, and the hole deepened into the Aux Vases, where a 10-qt. shot (½ to 1 qt. per ft.) was placed and tamped with sand. After the shot went off, the hole was washed to within 2 ft. of the bottom section of the liner, where another 10-qt. shot was placed and the hole cleaned to the bottom. This practice proved very expensive since several squeeze jobs were necessary, and, as pointed out above, much trouble was encountered in passing through the upper shot hole. The method is very successful where it is not necessary to open the upper zone until the lower one has been depleted.

Shooting Upper Pays

With the above difficulties in mind, one operator drilled into the Aux Vases and set pipe above the Bethel. The cement plug was drilled, hole washed to bottom, and a liner with perforations for the Aux Vases and Bethel was set. The wells are now producing from both formations, but they have never been shot. This practice is not being used at present because it is difficult to obtain a test on each of the pays, and cleaning out after shooting will probably be very expensive.

In most wells a definite increase in production has been obtained from shooting the upper pays, but due to the high cost of completion most operators are drilling twin wells where it is necessary to produce two pays in the same oil string. The ultimate recovery of oil from each sand will be increased by producing through a separate string, since it is possible to use much heavier shots below the pipe. The drilling of twin wells will also eliminate numerous squeeze jobs, often necessary after opening the upper pays. Where it is not necessary to open the upper pays, due to offset wells, and heavy shots are required to efficiently produce the sands, the most economical and practical method is to wait until the lower pay has been depleted, at which time it is plugged off and the next zone completed.

Under these conditions this method of completion is preferred to dual completion because of the great saving in time and expense of equipment.

The use of reverse circulation in this area has not proven very successful, especially for final completion, since it has been almost impossible to remove all of the fine sand by circulating, and in a few cases circulation has been lost. In one instance, a well was swabbing 98 bbl. from the Aux Vases, and after opening the Bethel and cleaning out by circulation, both pays swabbed 48 bbl. The operator is of the opinion that some mud was picked up from the pits and circulated with the oil, sealing off the face of the sand. The general opinion is that the above practice requires too much oil and is too expensive. In comparing costs of cleaning out by spudder and reverse circulation, one operator found the cost of the latter to be around $2,700, while the spudder was completing similar wells at an average cost of $1,800.

The spudder is by far the most preferred method used in completing wells, and is particularly adapted to sands having a low formation pressure. It has the advantage that it can be moved in and operated much more economically than any other method.

The general opinion is that a higher initial production is obtained when cable tools are used. On one lease it was found that in completing wells using a rotary, the initial production was around 100 bbl., while completing similar wells with cable tools the initial production was around 150 bbl. The results are credited to the mud pressure on the face of the sand which is present when using the rotary. To further eliminate this pressure, a few holes have been stopped above the pay and casing set. Cable tools are then used to drill into the formation. The practice is very practical, but due to the variation in the productivity of the sand from well to well, it can only be used in well-proven areas.

The rotary is very often used to drill the cement plug and work out the shot hole, the latter usually requiring around 8 to 16 hours to remove all the sand that is possible to do so by regular circulation. After the rotary is moved off, a spudder is used for the completion.

In addition to the above, the rotary is often used in conjunction with a stripper head, making it possible to clean out by reverse circulation. Due to the large amount of fine sand left in the hole even after circulating several hours, the operators have found it necessary to use cable tools for the final completion.

Methods of completion as practiced in this area at present lead to the conclusion that:

1. Seven-inch casing for the oil string is preferred because of the possibility of deeper production and the need of heavy shooting.

2. That producing one zone at a time and beginning from lowest producing level would be the most economical if such a plan would be accepted by all operators in any area, upper pays to be produced at a latter date by plug-back jobs.

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BOOK REVIEWS

POSSIBLE FUTURE OIL PROVINCES OF THE UNITED STATES AND CANADA. Edited by A. I. Levorsen. Price $1.50.

This volume consists of a symposium conducted by the research committee of the American Association of Petroleum Geologists and presents a brief outline of the geology and known possibilities for commercial deposits of petroleum in 50 areas in the United States and Canada, the great majority of which are not now producing. Each discussion is accompanied by a map and cross-section. In his foreword, Mr. Levorsen concludes: "To those with eyes to see and ears to hear, the symposium . . . offers a foundation for many new ideas, a stimulation to discovery thinking with a foretaste of the kind of exploration with which we will be faced . . ."

"Possible Future Oil Provinces of the United States and Canada" may be purchased through the Book Department of The Oil and Gas Journal at established retail price of $1.50, postage prepaid (extra outside the United States), and a copy will be forwarded promptly upon receipt of check or money order for that sum. Where payment is not provided, the book will be sent c.o.d. to avoid delay.

THE ENGINEERING PROFESSION, by Jesse Hoover and John Charles Lounsbury Fish. Stanford University Press. Price $5.

This book describes the qualifications and duties of the professional engineer and his habit of mind, and the rewards that an engineering career has to offer to qualified men. It presents an extended analysis of the sphere and status of the profession and points out its capacities for future development.

The study is designed particularly for young men contemplating a career in engineering and to the vocational counselor who is called upon to supply information regarding this broad profession.

The book also will interest the experienced engineer whether or not he has made his own analysis of the profession.

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Correction

The September 4 issue of The Oil and Gas Journal, Page 31, published a picture in connection with a discussion of directional drilling. The view shown is part of the Huntington Beach field of California, not the Wilmington field as stated.

Use of Acid-Soluble Cement in Cementing Oil and Gas Wells

By R. L. TRACY
Dowell Incorporated

A TYPE of cement which is readily soluble in acid has been introduced to the field recently. Since it can be removed easily with acid if its subsequent removal is found to be necessary, the use of this cement is feasible in many cases where regular oil-well cements cannot be used.

Acid-soluble cement is entirely permanent under all operating and reservoir conditions, and yet by a conventional acidizing treatment it can be easily removed from behind perforated liners and casing and from permeable zones which have been wholly plugged or squeezed off. Furthermore, by the use of an acid jet gun, it is possible to remove cement from the face of the well bore, as well as to jet out the hardened cement plug in or below the casing merely by running the jet gun to a string of tubing and suitably altering the positions of the individual jets. This latter procedure eliminates the necessity and expense of stringing up tools for drilling out the cement.

Since acid-soluble cement was introduced so recently, it is apparent that only a few of its varied applications have yet been visualized. The consistently good results obtained to date have given every indication that it will find broader and more general uses and that it will be valuable in overcoming many oil and gas-well completion problems.

Acid-soluble cement was developed with definite aims in view after long and careful experimentation in the laboratory and in the field. It fills the requirements set up as a standard for oil-well cements by the American Petroleum Institute code with respect to fineness of grind, pumpability under normal conditions, setting time, and compressive strengths. At the same time, it exhibits remarkable durability under particularly adverse and accelerated deterioration tests in natural brines.

Fig. 1 is a photograph of 17 different samples of set cement after exposure to natural brine in accelerated laboratory tests. Acid-soluble cement was used in Specimen No. 7, which shows less deterioration effects from the exposure than any of the others. For purposes of identification, these specimens of cement are described as follows:

No. 1. Type A—slow set
No. 2. Type B—slow set
No. 3. Type C—slow set
No. 4. Type D—slow set
No. 5. Type E—portland
No. 6. Type E—high early
No. 7. Type F—acid soluble
No. 8. Type G—portland
No. 9. Type H—high early
No. 10. Type I—portland
No. 11. Type I—high early
No. 12. Type J—portland
No. 13. Type J—high early
No. 14. Type B—portland
No. 15. Type B—high early
No. 16. Type K—high early
No. 17. Type L—portland

Acid-soluble cement consistently has shown extra setting properties in oil zones and when inti-

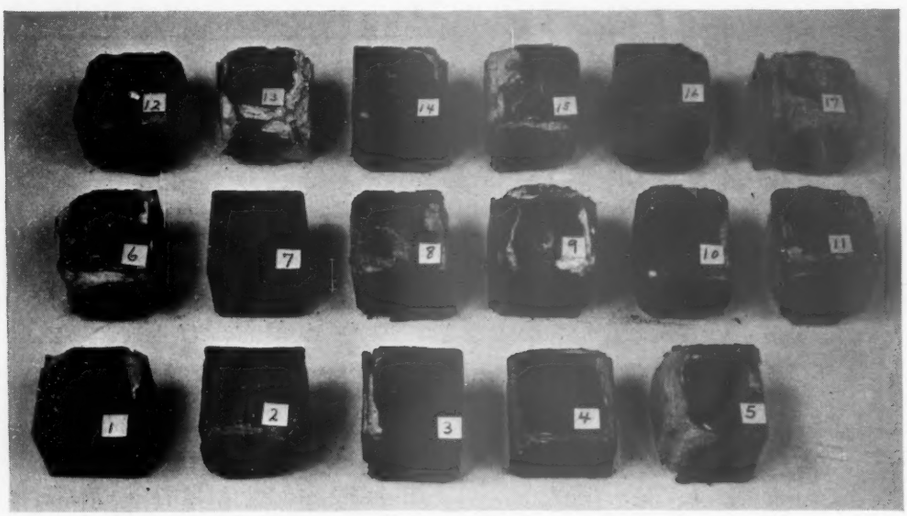
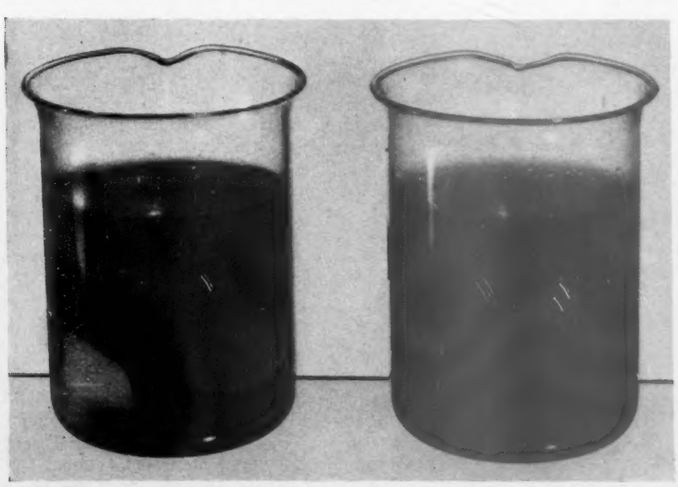


Fig. 1—Samples of various types of cement after exposure to natural brine in laboratory tests designed to determine the durability of the cements. Sample No. 7 is acid-soluble cement



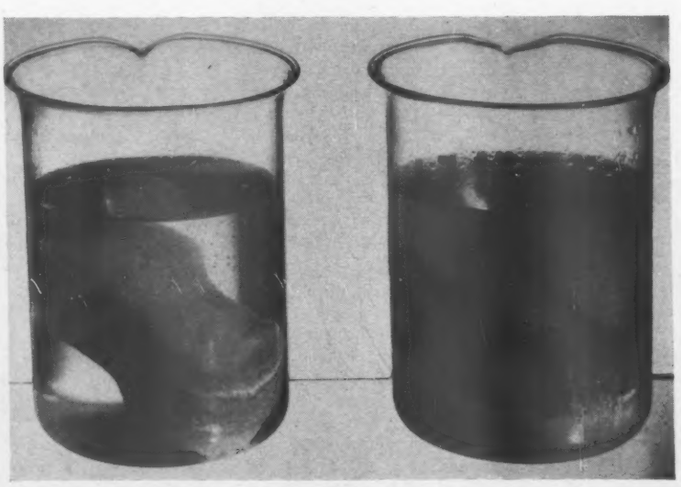


Fig. 2 (lower left)—Vigorous reaction is taking place in both the beaker on the left, which contains regular portland cement, and in the beaker on the right, which contains acid-soluble cement. The picture was taken approximately ½ minute after the start of the reaction. Fig. 3 (lower right)—Reaction of the acid-soluble cement is still proceeding rapidly, while the reaction with portland cement practically stopped. This picture was taken 10 minutes after the start of the reaction

1931 1941

Radioactivity Well Logging

Seismograph Service Corporation offers a Radioactivity Well Logging Service (through casing) in Trinidad, Venezuela, and Colombia.

This equipment, thoroughly tested in many oil fields in the United States, is proving equally successful in South America to:

- Determine the structure by accurate correlation between old cased wells;
- Locate the possible productive sands, behind the pipe, originally passed up in drilling;
- Correlate between wells in homogeneous shale bodies, which nevertheless have outstanding variations in radioactivity.

Radioactivity surveys are being made with equal success in open or cased holes. Fluid in the hole, such as oil, mud, salt or fresh water, does not affect the accuracy of the radioactivity measurements.

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WORLD WIDE EXPERIENCE

Wichita, Kans. **Flora, Ill.** **Houston, Texas** **Caracas, Venezuela**

WELL LOGS and FIELD DATA . . . . of Active Oil Areas

Northeastern Texas and Northwestern Louisiana

(Compiled by The Oil and Gas Journal)

LOCATION AND REGIONAL STRUCTURE: The area covered by this report consists of a broad and relatively flat uplifted mass in northwestern Louisiana bordered on the west by the East Texas embayment which swings around the north end of the uplifted area known as the Sabine uplift. The north and west side of the embayment is bounded by a great series of faults which have localized production in different formations and which swing out of the area under discussion through the Mexia-Powell series of fields.

DEVELOPMENT: Development of the region may be divided into four periods, the Upper Cretaceous, Woodbine, Lower Cretaceous and pre-Lower Cretaceous. Of these, the first is not of great importance at the present time. There has never been much Eocene production in the region and the present Eocene development in the Wilcox trend begins east of Claiborne Parish and swings south of the Sabine uplift.

WOODBINE DEVELOPMENT: Woodbine production is limited to the East Texas embayment. The first pools were found along the faulted zone on the west side of the embayment and the East Texas field was found on the east side where the Woodbine is truncated against the Sabine uplift. Previous to the discovery of East Texas a number of sharp structures recognized as buried salt domes were found in the basin, but these did not yield much production except for one large structure whose origin has not yet been definitely determined. This field, Van, was even more responsible for the continuation of prospecting than East Texas because of the unique structural relations of the latter field. Long Lake and Cayuga were discovered in 1936 and 1938 and Hawkins in 1940.

LOWER CRETACEOUS: The possibilities of the Paluxy and Glen Rose as potential producing horizons was realized for many years before their development became intense, but most of the earlier prospecting in the Lower Cretaceous was on the higher parts of the Sabine uplift where it was considered that chances for production were best. The potential was more definitely realized by discovery of oil at Rodessa in 1935 followed in 1936 by Talco and Sulphur Bluff.

Lately the great thickness of the Glen Rose has been broken up, and the Shreveport Geological Society has agreed on a new classification in which the old term "Glen Rose" and its subdivisions have been replaced by formation names which it is hoped will eventually be generally adopted. These changes are shown below:

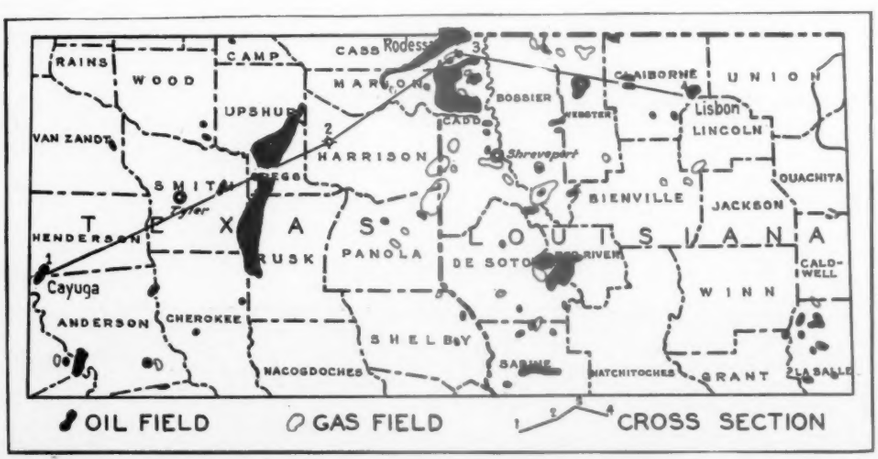
Old name:	New name:
Paluxy formation.	Paluxy formation.
Upper Glen Rose formation.	Mooringsport formation.
Middle Glen Rose formation.	Ferrys Lake anhydrite.
Lower Glen Rose formation.	
Rodessa member	Rodessa formation.
Pine Island	Pine Island formation.
	Sligo formation.
Travis Peak formation.	Hosston formation.

The new formation names are now used in Arkansas and Louisiana but not in Texas.

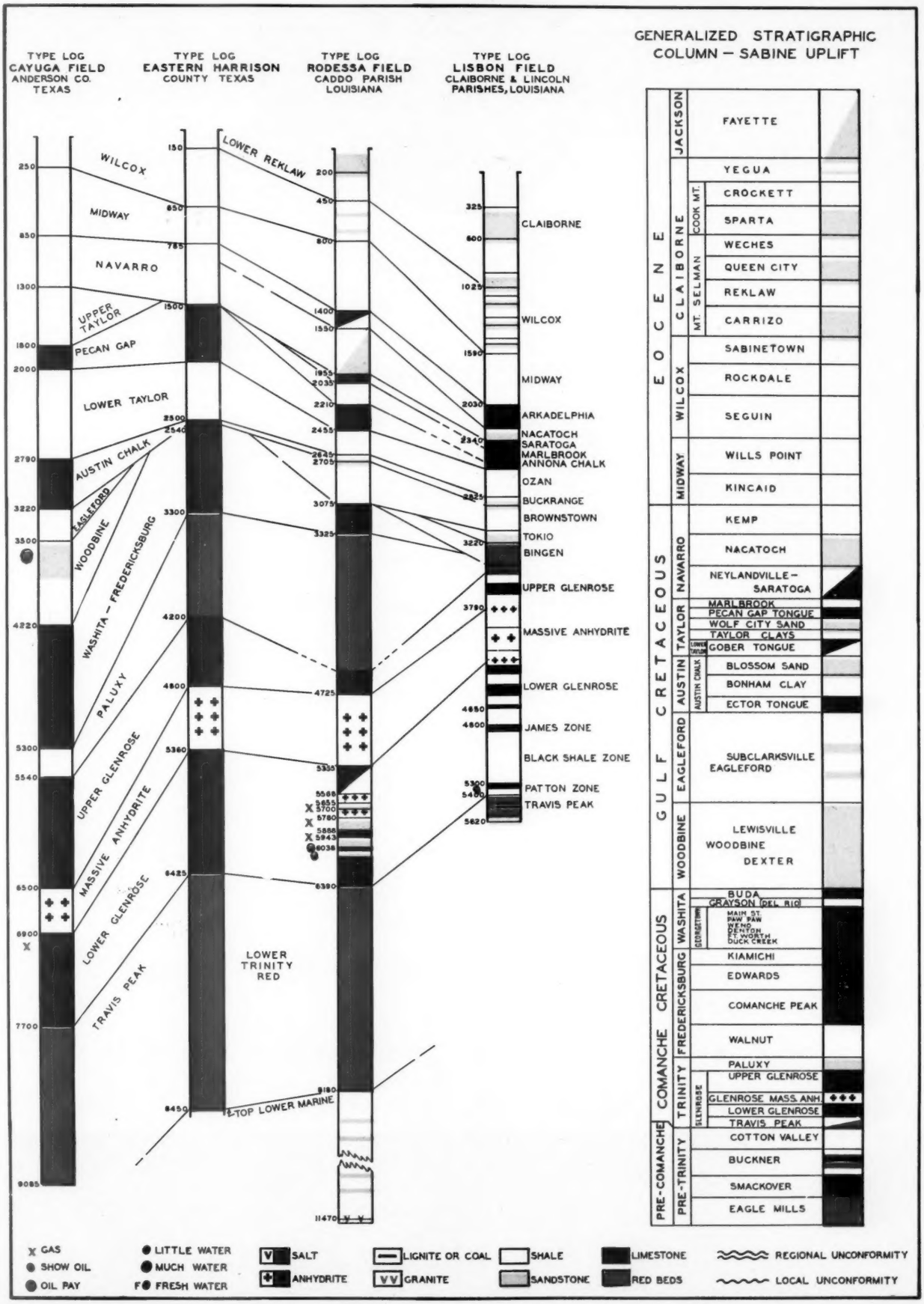
Paluxy production was generally considered of low gravity, following the discovery of Sulphur Bluff and Talco but in 1938 gas and distillate were found in Chapel Hill in Smith County, west of the East Texas field, followed by production in the Rodessa member of the lower Glen Rose and of high-gravity oil in the Pettit (Pine Island) member of the lower Glen Rose.

The first important production in the Rodessa member of the lower Glen Rose was found in the Rodessa field where gas was found in the Hill zone followed by gas and then oil in the Gloyd zone and by oil in the Dees-Young zone. Other production was recognized as coming from this zone particularly around the north flank of the Sabine uplift. Prospecting at Lisbon in 1936 resulted in the discovery of oil in the Sligo (lower Glen Rose) and of gas-condensate in the still lower Cotton Valley formation and at Cotton Valley, the Hosston or Travis Peak produces light oil from the Holloway zone.

PRE-COMANCHEAN DEVELOPMENT: Pre-Comanchean, probably Jurassic, production has not as yet been found in the Texas sector of the region and to a limited extent in Louisiana. The Cotton Valley production at Lisbon and Cotton Valley are the outstanding developments here. However, during the past 2 years there has been a great development of the Smackover lime production in southern Arkansas and efforts have been made to extend this production into Louisiana. A single well 2 miles north of Lisbon, but believed to be nearer the top of the large structure has distillate production in the Smackover lime below 10,000 ft. and will probably spur deep prospecting in the area. This test ended in Jurassic salt at 11,834 ft. Three other tests have penetrated the salt, one in Caddo, which passed through the salt and into igneous rocks where it was stopped at 11,419 ft., the other deep test stopped in Morehouse below the salt at 10,475 ft. This was in the Monroe field. The log of the third test, at Rodessa, is shown on the opposite page.



Oil and gas map of Northeast Texas and Northwest Louisiana showing location of cross-section


TYPE LOG
CAYUGA FIELD
ANDERSON CO.
TEXAS
TYPE LOG
EASTERN HARRISON
COUNTY TEXAS
TYPE LOG
RODESSA FIELD
CADDO PARISH
LOUISIANA
TYPE LOG
LISBON FIELD
CLAIBORNE & LINCOLN
PARISHES, LOUISIANA
GENERALIZED STRATIGRAPHIC
COLUMN — SABINE UPLIFT
WILCOX
MIDWAY
NAVARRO
UPPER TAYLOR
PECAN GAP
LOWER TAYLOR
AUSTIN CHALK
EAGLEFORD
WOODBINE
WASHITA – FREDERICKSBURG
PALUXY
UPPER GLENROSE
MASSIVE ANHYDRITE
LOWER GLENROSE
TRAVIS PEAK
LOWER REKLAW
LOWER TRINITY RED
TOP LOWER MARINE
CLAIBORNE
WILCOX
MIDWAY
ARKADELPHIA
NACATOCH
SARATOGA
MARLBROOK
ANNONA CHALK
OZAN
BUCKRANGE
BROWNSTOWN
TOKIO
BINGEN
UPPER GLENROSE
MASSIVE ANHYDRITE
LOWER GLENROSE
JAMES ZONE
BLACK SHALE ZONE
PATTON ZONE
TRAVIS PEAK
EOCENE
JACKSON
FAYETTE
CLAIBORNE
COOK MT.
YEGUA
CROCKETT
SPARTA
WECHES
MT. SELMAN
QUEEN CITY
REKLAW
CARRIZO
WILCOX
SABINETOWN
ROCKDALE
SEGUIN
MIDWAY
WILLS POINT
KINCAID
GULF CRETACEOUS
NAVARRO
KEMP
NACATOCH
NEYLANDVILLE – SARATOGA
TAYLOR
MARLBROOK
PECAN GAP TONGUE
WOLF CITY SAND
TAYLOR CLAYS
LOWER TAYLOR
GOBER TONGUE
AUSTIN CHALK
BLOSSOM SAND
BONHAM CLAY
ECTOR TONGUE
EAGLEFORD
SUBCLARKSVILLE
EAGLEFORD
WOODBINE
LEWISVILLE
WOODBINE
DEXTER
COMANCHE CRETACEOUS
WASHITA
BUDA
GRAYSON (DEL RIO)
GEORGETOWN
MAIN ST.
PAW PAW
WENO
DENTON
FT. WORTH
DUCK CREEK
FREDERICKSBURG
KIAMICHI
EDWARDS
COMANCHE PEAK
TRINITY
WALNUT
PALUXY
GLENROSE
UPPER GLENROSE
GLENROSE MASS. ANH.
LOWER GLENROSE
TRAVIS PEAK
PRE-COMANCHE
PRE-TRINITY
COTTON VALLEY
BUCKNER
SMACKOVER
EAGLE MILLS
GAS
SHOW OIL
OIL PAY
LITTLE WATER
MUCH WATER
FRESH WATER
SALT
ANHYDRITE
LIGNITE OR COAL
GRANITE
SHALE
SANDSTONE
LIMESTONE
RED BEDS
REGIONAL UNCONFORMITY
LOCAL UNCONFORMITY

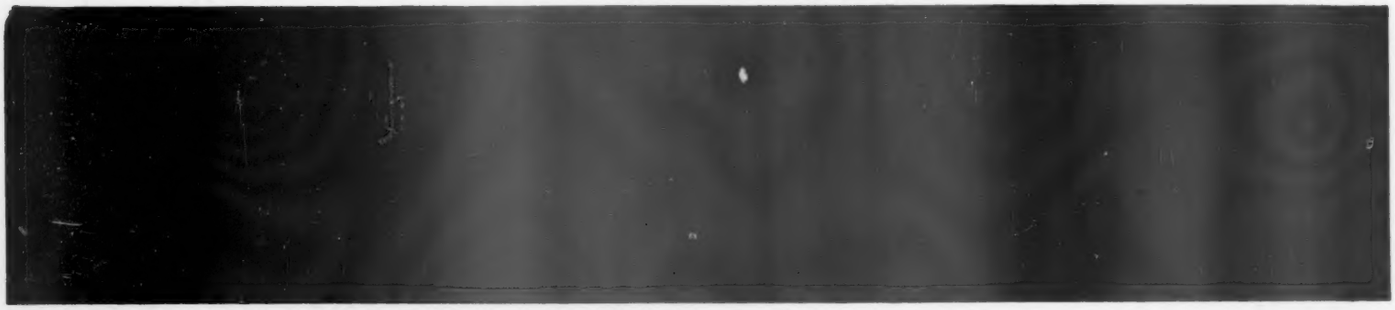
Research and Development

S S C maintains a fully staffed research development department, which makes continuous and exhaustive studies of both the practical and the theoretical phases of the geophysical problems encountered. S S C's complete research department is also supplemented by the manufacturing, development and research facilities of Engineering Laboratories, Inc., an affiliated company.

S S C's policy in regard to research and development is generally conservative and practical. All new innovations in interpretation, instruments, and equipment are critically studied and tested from the basic fundamentals to practical operation before acceptance for field use. Improvements in instruments as beneficial as S S C's Automatic Volume Control and Electronic Mixing, and a new interpretational method as fundamental as S S C's innovation of continuous profiling, can be expected from our research department in the very near future.

W O R L D W I D E E X P E R I E N C E

Wichita, Kans. **Flora, Ill.** **Houston, Texas** **Caracas, Venezuela**



mately mixed with oil, in salt-water horizons, and at times under fairly extensive agitation by gas or other means.

Most important of all, it is rapidly soluble in regular 15 per cent hydrochloric acid, only a fine silty residue remaining after the cement has been exposed to the acid for a comparatively brief period of time.

Regular cement is relatively hard to remove with acid, because of the fact that after it has reacted with the acid for a short time, an impervious silica gel collects on the surface of the cement. This film of silica gel prevents further contact between the acid and the cement, and consequently the reaction practically ceases. Only when the gel is removed can additional cement be dis solved.

The erosive action of the acid jet gun is most effective in keeping silica gel removed from the cement surface. Any cement, either regular or acid soluble, which can be jetted strongly enough with acid, will be dissolved or removed. When the use of the jet gun is not feasible, however, as in the case of cement too far back from the well bore or behind a liner or casing, regular cement cannot be successfully dissolved by acid.

No Acid Jet Gun Required

Acid-soluble cement, on the other hand, does not require a jet gun, for no agitation is necessary to remove silica gel as in the case of regular cement. A high reaction rate is maintained until all the cement is dissolved or disintegrated. The presence of from 40 to 45 per cent of very finely ground, intimately mixed, pure calcium carbonate in this specially prepared cement accounts for this decided increase in solubility.

The difference in the solubilities of regular cement and acid-soluble cement in 15 per cent hydrochloric acid is illustrated in Figs. 2, 3, and 4. All three are photographs of beakers containing cement briquettes and 15 per cent inhibited hydrochloric acid, and they represent various stages of the reaction of acid with regular cement and with acid-soluble cement. In each picture, the acid-soluble cement briquette is in the beaker on the right.

The photograph in Fig. 2 was taken approximately ½ minute after the briquettes were placed in the acid. Rapid reaction is taking place in each beaker, although the acid-soluble cement is reacting at a noticeably faster rate—so rapid, in fact, that vision through the acid is practically obscured.

In Fig. 3, which was taken 10 minutes after the acid and cement came into contact with each other, the reaction of the regular cement with the acid has practically ceased, as a result of the formation of a silica-gel film on the surface of the cement. On the other hand, the reaction with acid-soluble cement, while it has subsided somewhat, is still continuing rapidly. Already much of the briquette has been dissolved or disintegrated.

The third picture, Fig. 4, shows the end result of the reaction. For all practical purposes, no further reaction is occurring in the beaker containing the regular cement, while the acid-soluble cement briquette has been almost completely dissolved. All that remains is a residue of insoluble material in the bottom of the beaker. The primary purpose of dissolving or getting the cement into a form that could be removed from a well has been accomplished, and any residue such as is shown in the figure would occasion no difficulty in an actual cement-removal job.

First Use of Acid-Soluble Cement

As would be expected, one of the first and most obvious uses for acid-soluble cement was for the squeezing or blanking off of shallow, permeable prolific zones prior to deepening a well or drilling through such horizons to lower formations. In this manner these upper zones are fully protected from ingress of drilling muds and from possible migration of fluids after the well is completed. After the lower production has been exhausted, it is a simple matter to gun perforate casing or to drill out or to remove with acid special alloy sections adjacent to these upper horizons. When acid-soluble cement is used in the cementing, it can be removed with a minimum of effort, thus exposing the upper producing zone.

Even when such shallower zones are relatively impervious to fluid, the use of this special cement behind the casing affords all the protection and permanence of regular cement along with the tremenduous advantage of being readily removed whenever desired. All available field data indicate also that even if acid-soluble cement is used throughout in cementing the casing, there is no danger of any appreciable action on the cement in the annulus above the casing shoe when acid-soluble cement opposite the formation is being removed by acidizing. If such a procedure is considered risky, however, a small quantity of regular or "high early" cement can be spotted as a "tail in" in the bottom of the casing and in the annulus adjacent to the shoe. No harmful effects accompany the mixing of regular cements with acid-soluble cement.

A temporary bridge made of acid-soluble cement affords a simple, cheap, yet positive means of isolating any horizon while testing upper zones, recementing a casing string, or doing other remedial work. Whenever desired, the cement can be removed by the jet gun or by dumping or spotting acid adjacent to the plugged-off section.

The usefulness of acid-soluble cement for squeeze work has been demonstrated on numerous occasions. In fact, it appears to offer unlimited possibilities in this direction. It has proved especially adaptable to the indiscriminate squeezing off of oil, gas, and water zones, followed by subsequent easy and selective removal from the desired sections. Either an acid jet gun in open hole, or an acid treatment made in conjunction with packers or special tools adjacent to perforations in casing or liner, results in a rapid, complete clean out of the desired horizon. Little or no action apparently takes place in the zones either above or below the treated zone.

When the cement is behind casing or liner, several factors are believed to contribute to the elimination of vertical reaction by the acid. Most important of these factors are: (1) absence of permeability of the cement sheath in the annulus between the pipe and the walls of the hole; and (2) accumulation of spent acid in the annulus due to primary reaction on the cement, and the retention of this solution in the "dead space" created.

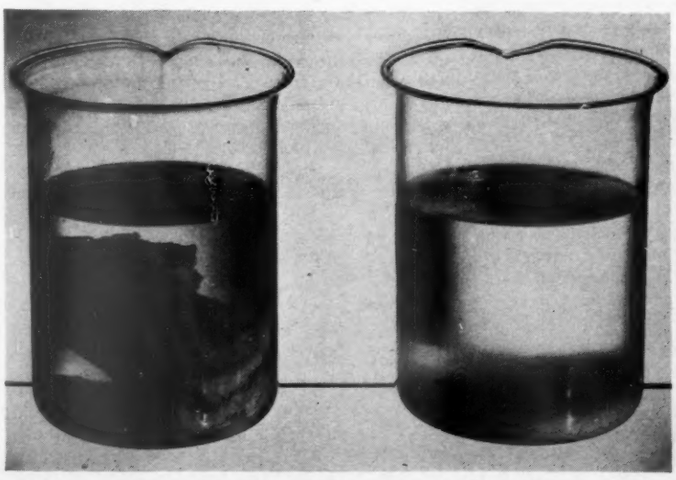


Fig. 4 (below)—Only a silty residue remains of the acid-soluble cement, while the portland cement sample is still practically intact. This picture illustrates the results obtained when the reaction is allowed to proceed to completion. Fig. 5 (right)—The acid jet gun, which allows direction of streams of acid at high velocity, is extremely useful in removing cement by acidizing

There are several different procedures which can be followed in performing the squeeze jobs mentioned above. Whenever exceptionally high pressures seem necessary to effect a complete shut off, it is recommended that cement retainers be used.

If the formation below the shoe has been squeeze-cemented for shutting off bottom-hole water, the cement can be drilled out to the desired depth. A little of a special organic gel compound can then be run to the bottom with a dump bailer, and an acid jet gun with horizontally directed jets can be used for breaking down the cement sheath on the walls of the hole above the gel. This definitely confines the effect of the acid to the desired vertical section. In a few hours the gel reliquefies and may be removed from the hole without difficulty.

Use of Acid Jet Gun

If a removable squeeze tool is used, tools are not required for drilling out the cement left in the casing. The acid jet gun with jets directed at a slight angle downwardly will remove the cement quite rapidly. This gun can be run on a measuring line (a safe procedure when inhibitors are used in the acid) to a position in a seating nipple at the bottom of the tubing. When a desired vertical distance has been drilled, the gun is quickly pulled out of the hole and the downwardly directed jets are replaced by horizontally directed jets. The treatment then proceeds as in the case described above after the cement has been drilled out with tools to a suitable level.

Frequently, squeeze pressures in the neighborhood of 2,000 lb. per sq. in. are quite sufficient for a complete shutoff of all horizons below the shoe or behind perforations in the casing. Such jobs can be done by the old open-end tubing method of squeezing through the tubing and holding back-pressure on the casing by a stripper-type well head. This procedure has proved to be economical, and under certain reservoir conditions, has given excellent results.

In Table 1 are given pertinent data on several squeeze-cement jobs in the Illinois area in which acid-soluble cement was used. Production figures before the squeeze job are shown in one of the columns; and after acidizing out the acid soluble cement in another column.

Acid-soluble cement is mixed in the normal manner, using about 6 gal. of water per sack of cement, or about 52 per cent of water by weight of cement. This mixture gives a slurry of about 14.6 lb. per gal. which remains pumpable for about 2 hours under normal Mid-Continent bottom-hole temperatures. It is generally recommended that slurries containing around 49 per cent water, or about 5.5 gal. per sack of cement as a minimum, be used on all acid-soluble-cement jobs apt to require much over 1 to 1½ hours of pumpability. Slurries of about 14.7 to 15 lb. per gal. have proved satisfactory for casing jobs. On squeeze jobs, it has been the general practice to begin with a slurry of approximately 14 lb. per gal. and gradually decrease the per cent of water until the weight of the last third or so of the cement slurry is about 15 lb. per gal.

In Table 2, for various quantities of water per sack of acid-soluble cement, there are listed the density of the resulting slurry in pounds per gallon and the per cent of water by weight of cement. The recommended working limits on slurry weights are indicated in this table. Generally it appears desirable to avoid excessively thin slurries in order to insure sufficient final strength in the set cement. On the other hand, if the slurries are made too dense there is a possibility that the cement will not remain pumpable for a time sufficient to place it.

TABLE 2—WEIGHTS OF SLURRY

	Ratio of water to cement gal. per sack	Slurry weight lb. per gal.	Amount of water, per cent by weight of cement
	5.0	15.3	44.3
Recommended limits	5.6	14.9	49.6
	6.0	14.6	53.1
	6.4	14.2	56.6
	7.0	14.0	62.0
	8.0	13.5	70.8
	9.0	13.1	79.8

It might be well to mention that up to 3 per cent treated bentonitic material can be used with acid-soluble cement with no apparent effect on its easy removal with acid. This would indicate that when a high angle of repose of the slurry appears desirable, or when increased thixotropic or gelling properties are required, the use of these bentonites is not objectionable. In squeezing zones or fissures that are extremely permeable, such a mixture might be used to advantage.

Acid-soluble cement is generally available in Illinois, Kansas, Nebraska, and Michigan at a price range close to that of normal high early strength cements. Apparently, it can be stored for considerable lengths of time without any appreciable injury to its chemical or physical properties.

Conclusions

1. Acid-soluble cements, as shown by both laboratory and field data, possess the desirable properties of oil-well cements; in addition, they are more durable in brines and more easily removed from wells by acidizing, thus making possible improved cementing practices.

2. When acid-soluble cement is used, the cement can be acid-treated and removed much more completely than when regular cement is used.

3. Acid-soluble cement has extra setting abilities in oil zones, and when intimately mixed with oil or salt water.

4. The length of time which the acid-soluble cement has been in a well apparently has no detrimental effect upon the ease with which the cement can be removed with acid.

5. Treated bentonitic material in quantities up to 3 per cent can be used with the acid-soluble cement without apparent effect on its ability to be removed by acid.

6. Acid-soluble cement can be squeezed against adjoining oil, water and gas formations indiscriminately. Later it can be removed selectively from behind perforations in casing or liner, or from below the casing seat by jetting in a horizontal plane with the acid jet gun.

7. In Table 1 the results of several acid-soluble cement squeeze jobs are given. In removing the cement, volumes of acid varying from 500 to 5,000 gal. were used, by both the jet gun and tubing methods. A comparison of the production figures before the squeeze job and after acidizing shows that in every case the water production was decreased very greatly, and that the oil was substantially increased in three of the wells.

TABLE 1—RESULTS OF SEVERAL ACID-SOLUBLE CEMENT SQUEEZE JOBS IN ILLINOIS

Field—	Horizon—	Type of squeeze	No. stages	No. sacks of acid-soluble cement	Maximum pressure lb./sq. in.	No. gal. acid used	Jet gun or tubing	Production before (Bbl. per day) Oil	Production before (Bbl. per day) Water	Production after (Bbl. per day) Oil	Production after (Bbl. per day) Water	Remarks—
Irvington	Devonian	Retainer	1	158	2,000	500 100	Jet Tubing	189 Swabbed	558	89 Pumped	9	Drilled hard cement 72 hours with cable tools. Swabbed hole between acid stages.
Tonti	Devonian	Retainer	1	50	3,000	500 1,000	Jet Tubing	250 Swabbed	2,700	300	2	Drilled in with cable tools prior to jetting.
Golden pool	Benoist	Tubing	1	50	300	500	Jet	14 Swabbed	158	12	16	Drilled out cement with cable tools.
Centralia	Stein	Dump bailer	3	8	Only weight of fluid	....	....	50	125	25	0	Complete water shutoff obtained very economically.
Bone Gap	McClosky	Removable retainer through perforations in casing	1	146	3,000	500	Tubing	50	800	90	20	Drilled out with tools past perforations. Reperforated 6-ft. section prior to acidizing.
West Liberty	McClosky	Baker retainer	1	100	1,800	5,000	Tubing	0	4,800	61	0	Gun perforated and made salt water. Squeezed and then given conventional acidizing treatment. Acid-soluble cement shut off water from above and allowed acid to reach pay opposite perforations.

Gas-Gathering and Discharge Systems

(Continued from Page 51)

fected by two input wells. Gathering of gas from leases whose combined gas production is in excess of the plant capacity enables, through proper control, the richer gas to be taken continuously, with the lower gasoline content gas serving to make up sudden drops in the supply to the system. The accurate system of metering and controlling gas at input wells facilitates the return of gas to producing formations at a predetermined rate based on the volumetric withdrawal of oil and gas from the producing wells in the area. The entire gas-gathering and discharge system in use at Louden is a smoothly coordinated combination of processes, all interdependent upon each other. Producing schedules are arranged to supply a steady adequate flow of gas to compression plants just as the plants and transmission lines are designed to deliver gas in desired quantities to the discharge at input wells.

Acknowledgment

It is the author's wish to express gratitude to the Carter Oil Co. for permission to present this paper.

Vultee Vanguard Pursuit

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DEFENSE

is to invite Disaster . . ."

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(Patents Applied For)

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THE MOST INSIDIOUS "FIFTH COLUMN" in an oil well is the possibility of water or gas migration behind the casing — which becomes a probability when no precautionary measures are taken while cementing to remove obstructive mud cake and assure fluid-tight contact between cement and formation.

B and W Wall Cleaning Guides have proven to be the best defense against the faulty completions resulting from fluid migration. Rows of tempered spring steel wires with strong torque action are attached to collars which are mounted in series on the casing. The casing is moved up and down just before and during the final placement of cement. The wires have a direct abrading action on the mud cake, besides acting as centering guides for the casing, the final result being uniform cement distribution in a clean hole and DEFINITE DEFENSE AGAINST FLUID MIGRATION.

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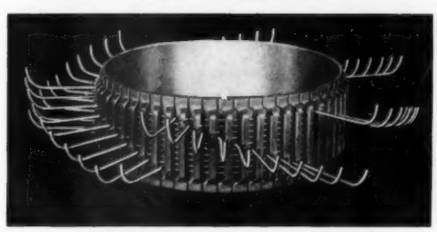
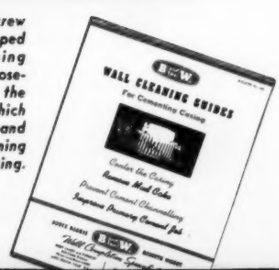


Top view above shows derrick crew starting to run casing equipped with B and W Wall Cleaning Guides . . . Lower view shows close-up of single Guide unit . . . At the right, our Bulletin No. 102, which contains complete information and data on B and W Wall Cleaning Guides . . . Yours for the asking.



WRITE FOR ILLUSTRATED BULLETIN 102

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A modern line-traveling coating-and-wrapping machine

Prevention of Pipe Corrosion Highly Developed Technique

By STARR THAYER
Consulting Engineer, Houston, Tex.

DURING the past few years we have seen the art of protecting pipe lines against corrosion develop to a very high standard. Much of this development has come about so gradually that it possibly is not fully appreciated.

The improvements in protecting pipe can be divided into three general groups. First, there has been a very decided improvement in the quality of protective coatings, and these improvements are well understood by the industry. Second, there has been a complete revolution in the method of application of these coatings. The old sling and daubing brush has been replaced with the streamlined coating machine, both line-traveling and stationary types. Third, uncoated pipe may be protected easily by the use of cathodic protection. This system is often used to protect bare or poorly coated pipe as well as the few bare spots that would be laid on a modern well-coated line.

Naturally, there are thousands of miles of pipe lines that are not coated with what is now considered as a satisfactory coating. A percentage of these lines are suffering from corrosion. The operator knows that some time these sections will become so troublesome that something will have to be done about it. It is possible for the corrosion engineer to tell him just how many leak repairs he will have in the future on these spots. From this information he may plan the cure. This generally resolves itself into the problem of whether to rebuild or install the cathodic protection. Here again the engineer is able to aid him in making the decision.

The operator's problem is rather simple when trouble occurs on an existing line. The troublesome area has been defined and all that he has to do is to decide on one of the two methods to combat it.

In planning the construction of a new line in an almost unknown soil the operator encounters a new and more complicated problem. He does not know how much of the soil area will be hard on his pipe. As is often the case, he plays safe and applies a good protective coating to the entire line. Of course, he has made no mistake here except that he may be criticized for spending money for coating in areas where this coating may not have been necessary. In some instances attempts have been made to determine the areas where corrosion could be expected and then coat these areas only. Now this brings up the problem of determining these corrosive areas.

A stationary-type machine coating large-diameter pipe

Soil Analysis

There are many factors that contribute to the destruction of buried pipe. The more common of these are acid content, moisture and oxygen content, and soil resistance.

The soil-resistance measurement is probably used more than all of the others. Often it is the only factor considered. Perhaps one reason for this is that it is so easily taken. It is not the writer's belief that this measurement as usually taken, that is, by making this reading with the soil as found in place, is of very much value in itself. One reason for making this statement is that one does not know whether one is testing these worst soil in the location or the best. We have all seen a condition where a fine and bland soil contains lumpy clods of a different soil type. These may be very severe on the pipe.

This has been very ably illustrated in a Bureau

(Continued on Page 115)

YOU CAN'T BEAT THE REED 'T' BIT
FOR THE STICKY FORMATIONS . . . WE OFTEN
USE IT INSTEAD OF DRAG BITS
Says, GLENN M. KEENEY
Driller in LOUISIANA

The REED "T" Rock Bit is equipped with cutters having deep, widely spaced teeth which provide maximum action on bottom and assure effective cleaning action. In many cases it has economically replaced the drag bit where the formations are unconsolidated or sticky because it can penetrate the usually encountered shells, the drilling of which might require several drag bits.

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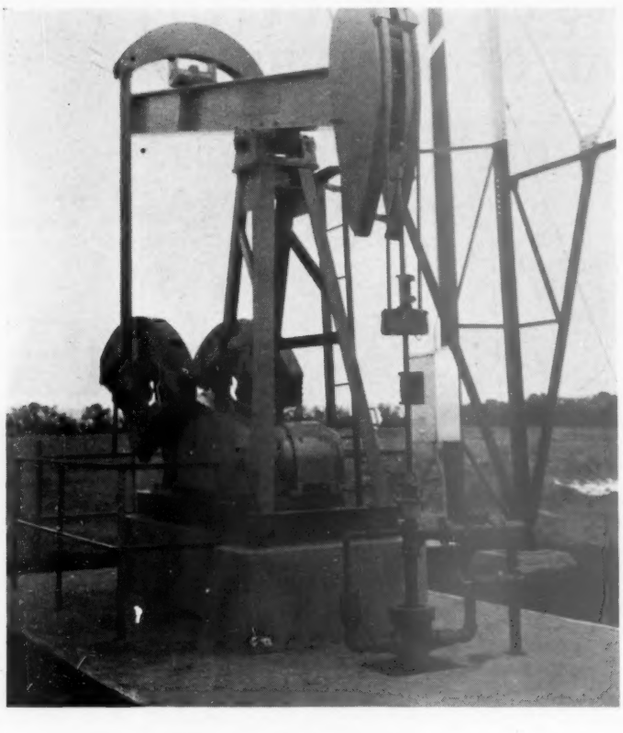
P. O. BOX 2119 HOUSTON, TEXAS

Motor Placed Under Samson Post

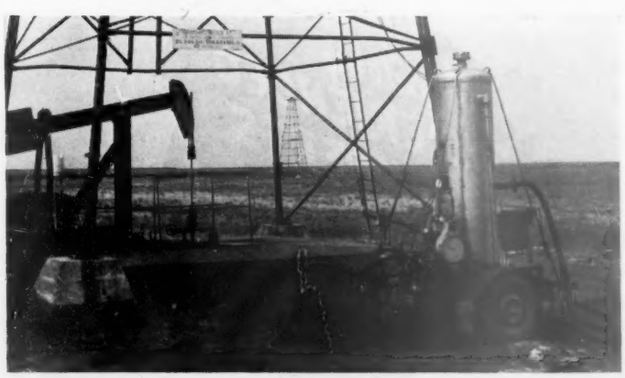
Considerable saving in concrete is effected by one operator who remodels his pumping units so a smaller foundation will serve. Normally the electric motor is at the rear of the gear box but this operator fastens the motor under the samson post at the front of the unit and turns the chain guard around. The brake lever is also placed at the front so the controls are centralized.



Bumper Makes Vise Rack

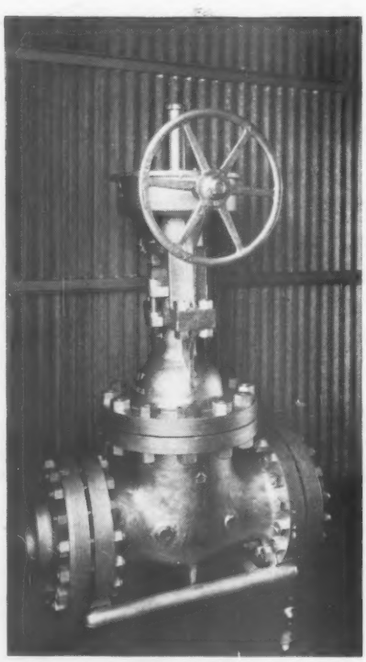
One major company uses the front bumper of its slim-hole drilling rigs for holding the chain-type pipe vise. The bumper is specially reinforced as it supports the derrick while it is in the horizontal position for moving. A rack is provided on the left side of the truck for a fire extinguisher. In the center a special screw-type jack allows the truck to be properly adjusted against the hold-down.

Operating Ideas



Trailer-Mounted Separator for Testing Wells

Success of a repressuring project depends on control of the movement of the gas through the formation. This is shown by periodic gas-oil ratio tests of the producing wells, any large increase indicating that channeling is taking place. One company uses a special small separator mounted on a trailer along with the necessary orifice meters for testing the wells. Hose is used for coupling the separator to the well and to the flow lines to the tank battery.



Stand for Replacement Valve

One large pipe-line company keeps spare valves for quick replacement in case of failure some place in the system. These valves are stored, complete with companion flanges, in warehouses at strategic points. To aid in the handling of the large valves, and to keep them standing upright and thus conserve space, they are equipped with light stands made from old pipe of small size. The stands allow the valves to be slid across the floor of the warehouse or the bed of the truck.

Progress in METALS

By W. L. NELSON

Oil-Field Boilers Fabricated By Flame Cutting

FLAME CUTTING and welding, as a process of fabrication, is making rapid progress in all branches of industry. A recent application is the construction of oil-field boilers by cutting most of the parts with a flame-cutting machine and then welding the parts together. This method of fabrication has also been applied in the fabrication of pumping jacks, oil-field machinery, the repair and upkeep of exchangers in refineries, and probably in many other situations.

Flame or oxygen cutting is practiced by means of a cutting torch. A regular acetylene or gas flame is first employed to heat the metal and then oxygen alone is passed through the torch. The oxygen burns or combines with the metal forming a molten slag material which is blown away by the flame. The operation is indicated in the two photographs below.

Extreme thicknesses of metal (over 20 in.) can be cut simply by utilizing more oxygen. If, however, the simultaneous cutting of a stack of plates is to be conducted, great care must be exercised to be certain that the plates are pulled very close together by means of clamps. Another mechanical innovation is the use of several torches at the same time in cutting duplicate patterns. This is accomplished by means of a machine frame which supports all of the torches and which causes all of the torches to traverse the same pattern simply by tracing around the pattern or blueprint of the part.

Metallurgical Terms

Manganese Steels

MANGANESE is used in three principal ways in ferrous products and two distinct types of steels have been called manganese steel. The three primary ways in which manganese is employed are:

1. *Scavenger and deoxidizer.*—To make sound castings, deoxidize or quiet steels during manufacture, and to partially eliminate the deleterious effect of sulfur. This is general use and applies to nearly all iron alloys. About 13 lb. of manganese is used in this manner for each ton of steel.

2. *Austenitic manganese steel.*—Among structural steels this steel is unique. It is a cast material, it contains about 13 per cent of manganese, and is one of the toughest, most wear-resistant metallic materials. The large amount of manganese causes the carbon to dissolve in the steel whereas in regular steels the carbon is present as brittle iron carbide. This steel is used for such extreme services as frogs or crossings for railroad tracks, teeth on steam-shovel buckets, drill-stem bushings, chain links, clutch bands, cathead on rotary drilling hoists, drilling-bit bodies, and crusher jaws. The steel is so wear resistant that it cannot be machined and can only be finished by casting and grinding.

3. *Low-alloy steel.*—In low percentages (1-2.5 per cent) manganese causes a small improvement in the strength and hardness of carbon steels. The effect is not to be confused with the extreme change caused by the use of 13 per cent manganese in the austenitic manganese steels. Low-alloy manganese steels are used for cast crown-block sheaves, drill collars, tool joints, drill pipe, casing and casing-head bodies.

It is unfortunate that the term manganese steel is applied to both the low-alloy and high-alloy varieties because they are vitally different in their properties and because the uses to which they can be applied are entirely different. Confusion would be avoided if two distinctive names could be brought into widespread use.

Welding Terms

Electrodes, Rods, and Related Terms

The electrodes used in various processes are:

A. *Metal arc welding.*—Filler metal in the form of a wire or rod, either bare or covered, through which current is conducted between the electrode holder and the arc.

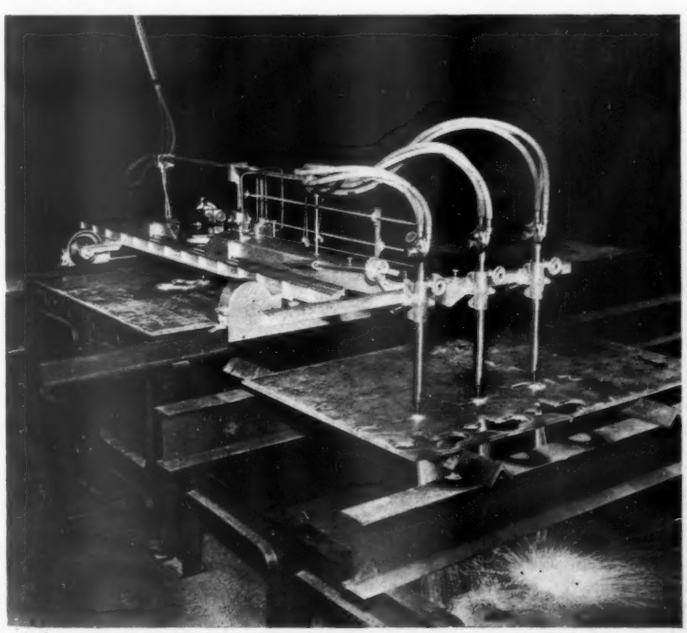
B. *Carbon arc.*—A carbon or graphite rod through which current is conducted between the electrode holder and the arc.

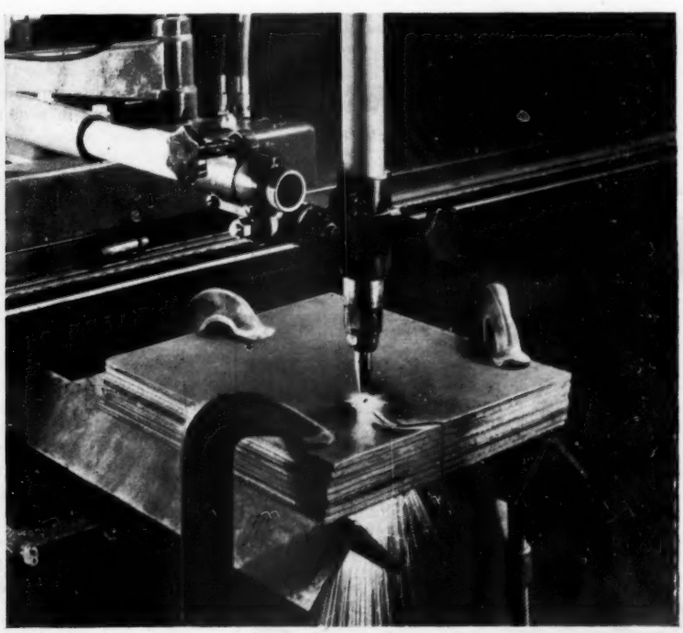
C. *Atomic hydrogen.*—One of two tungsten rods between the points of which the arc is maintained.

D. *Resistance welding.*—A bar, wheel or die through which the current is conducted and the pressure applied to the work.

The term "welding rod" is used in referring to filler metal, in wire or rod form, used in gas welding processes, and also those arc-welding processes wherein the electrode does not furnish the metal. A "composite electrode" is one having more than one filler material combined mechanically and it may or may not contain flux.

A solid metal electrode with no coating other than that incidental to the manufacture of the electrode, or with a light covering, is referred to as a bare (or lightly covered) electrode.





Left: Flame-cutting machine with three torches. Right: Flame cutting eight plates at the same time. Photos courtesy Linde Air Products Co.

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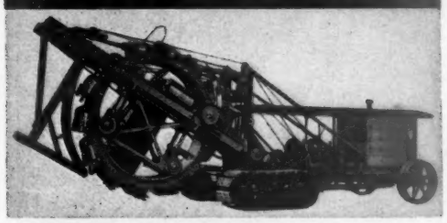

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Pipe-Line Activity

Coordinator Studies Steel Needs of Defense Line

The Office of the Petroleum Coordinator has not given up the idea that the oil pipe line should be built from Texas to the Philadelphia and New York refining areas. The Supply Priorities and Allocation Board early this month announced a decision denying preference ratings for steel plate for the manufacture of the 22 and 24-in. pipe needed for the line. This at first was believed to have definitely removed the proposition from the picture.

The announcement from the coordinator's office last week was to the effect that the coordinator is considering the feasibility of using seamless pipe instead of pipe made with plate steel.

An account of the present status of the steel requirements of the National Defense Pipe Lines, Inc., project appears elsewhere in this issue.

Shell Celebrates Opening of Massachusetts Gasoline Line

WORCESTER, Mass., Sept. 20.—Speaking at a Chamber of Commerce dinner attended by 250 business leaders of Central Massachusetts, Alexander Fraser, president of Shell Oil Co., Inc., expressed confidence that the petroleum industry will meet every demand of the present emergency.

Mr. Fraser spoke on the occasion of the official opening of his company's new 65-mile pipe line from Fall River to West Boylston, Mass. He said that, "Out of the 150,000 tank cars only about 10,000 were owned by the railroads and many of these cars were utilized to move products for railroad use. It is generally recognized that if the industry had to depend upon outside sources for transportation, nothing like the present high rate of efficiency would have been achieved." He mentioned that the petroleum industry has invested nearly $2,000,000,000 in transportation without benefit of land grants or government subsidies. In discussing the transportation situation he said that in excess of 70 ocean-going tankers or more than 20 per cent of the normal oil-tanker capacity for moving products from Gulf of Mexico ports to the eastern seaboard have been withdrawn from that service and assigned to the movement of products to the nations fighting the Axis powers and for service with the U. S. Navy. This acute situation has been further aggravated by the unusual increase in private consumer and industrial demand, which is now running at the rate of 12 per cent in excess of the corresponding figure for last year; and on top of all this, the situation is still further aggravated by the multifold increase in naval and military requirements due to the rapid expansion of our armed forces.

"Typical examples of what the industry is doing to ease the situation include the greatly expanded use of barges in the shipment of products from the Gulf up the Mississippi River to the Great Lakes and down the New York Barge Canal to the Atlantic Coast, together with the utilization of rail tank cars," he declared.

Today, according to Mr. Fraser, 126,000 miles of pipe lines crisscross the country in an intricate network. This mileage is slightly in excess of one-half of the total railroad mileage. These pipeline facilities are more than adequate to meet promptly and efficiently all of the crude-transportation needs (excluding certain East Coast refineries normally supplied more economically by tankers).

"The next most important element in our transportation picture is the oil tanker," Mr. Fraser said. "Over 25 per cent of the tanker tonnage of the world is under the American flag. Only in the past few days the Navy has gone about the job of clearing all Axis submarines and raiders from the seas vital to American defense, which means tremendously increased operations, which means more fuel oil, which in turn means more tankers. The situation is not made any easier by the fact that the effectiveness of the tanker fleet is considerably impaired by reason of the convoy system, restricting the movement of all ships to the speed of the slowest vessel."

In the afternoon ceremonies at the new terminal at West Boyleston, linked to the storage plant at Fall River, Mass., David H. Howie, Massachusetts director of gasoline conservation, officially opened the pipe line. Col. Mark L. Ireland, quartermaster, First Corps Area, spoke on oil in modern warfare, and S. S. Smith, manager of Shell's pipe-line department, explained how a variety of products, ranging from 100-octane aviation gasoline to industrial and home-heating oils are transported through the line.

The average annual per capita consumption of petroleum products in Massachusetts is in excess of 500 gal., which is higher than in any other state. Conservation Director Howie stated that the total storage available in Massachusetts would not provide for more than 3 to 4 weeks' supply at the rate of winter consumption of petroleum products, and that it is prudent for Massachusetts people to continue to practice reasonable conservation methods.

The pipe line has a daily capacity of nearly 10,000 bbl.

N. J. McGaw, vice president, transportation and supplies; L. T. Kittinger, vice president, marketing, and J. W. Watson, treasurer, were among the Shell officials present at the ceremonies.

Continental Plans Line in North Texas

Continental Pipe Line Co. is reported to be ready to start work on a 22-mile 4-in. oil pipe line to serve three fields in Clay County, North Texas, which now are being served by tank trucks.

The proposed line would start 3½ miles north of Jolly and extend 8 miles to the Ross pool, thence southeasterly by way of the Horton-Wiggins and Burns-Browning pools, terminating in the Bridwell-Meyers area. Development of these areas has been delayed because of lack of outlet.

Pure Transportation Co. Absorbs Wabash System

The Illinois Commerce Commission authorized the Wabash Pipe Line Co. to transfer its properties and other assets to the Pure Transportation Co. and then to discontinue business as a crude-oil carrier.

The Wabash has operated a pipe line from Noble to Martinsville and one from the Calvin pool in White County to Centerville, and supplementary telephone and telegraph facilities in Illinois.

Wabash Pipe Line Co. last week completed 9 miles of 6-in. line from the new Johnsonville pool in Wayne County to Cisne. The line was built by Williams Brothers Corp. and was tested with crude oil. The Johnsonville pool is also served

Pipe-Line Personalities . . . . . Julian L. Foster

JULIAN L. FOSTER was born in Fort Worth, Tex., and attended elementary and high school there. He received his technical training in engineering at Texas A. & M. College. After leaving college in 1916 his first job was that of material clerk for Texas Power & Light Co. on a transmission line being constructed in Texas. Early in 1917 he was made resident engineer for the company. It was in the forepart of 1918 that Mr. Foster joined Lone Star Gas Co. for the first time and in the capacity of engineer. After about a year of work with Lone Star, Mr. Foster left on an extended leave to become plant operator for the U. S. Bureau of Mines at the government helium plant at Petrolia in North Texas. In 1920 he rejoined Lone Star and was placed in charge of high-pressure gas measurements. Late in 1924 he was made assistant to general superintendent E. F. Schmidt in the design and construction of pipe lines, gasoline lines, and compressor stations.

In 1926 he was made chief engineer of the company and while in this capacity spent 3 years, or from 1930 to 1933, in charge of crossings and compressor stations for Northern Natural Gas Co. (in which Lone Star Gas Co. has an interest).

In 1935 Mr. Foster was made general superintendent of the company and now holds that title and also that of chief engineer. Added to his many advancements, he was in 1940 made a member of the board of directors.

by a 4-in. line of the Sohio Pipe Line Co. which comes in from the south, and two 6-in. lines of Texas Co. to its main line from Salem to Lawrenceville. Production in the field is around 30,000 bbl. daily and it is the most active drilling area in Illinois at this time. (From Cisne this oil moves to Clay City and on to Martinsville through the Wabash 8 and 10-in. line. Delivery is made at Martinsville to the Illinois Pipe Line for shipment to Heath and Toledo, Ohio.)

Globe Completes Gasoline Line

Globe Oil & Refining Co. has completed construction of its gasoline pipe line from McPherson, Kans., to Council Bluffs, Iowa, but completion of pump stations and terminals is not expected for several weeks.

The line cost an estimated $2,000,000; work was started early in April.

Georgia Supreme Court Removes Last Barrier to Southeastern

With legal barriers swept away by a state Supreme Court decision, the Southeastern Pipe Line Co. plans to ask the Georgia Highway Board for permission to place its gasoline line under roads.

The unanimous Supreme Court ruling dissolved an injunction restraining the company from placing their pipe under state highways.

Steve Clay, attorney for the pipe-line company, said the decision cleared the last legal obstacle to finishing the pipe line, which runs from Port St. Joe, Fla., to near Chattanooga, Tenn.

Mr. Clay said he expected no trouble in obtaining the highway board's permission as it already had granted similar permits to the Plantation company for a Louisiana-to-North Carolina pipe line.

The attorney declared he would try to work out with railroads some agreements so that conduits could be run under their tracks. Railroads have opposed the pipe-line project.

The Supreme Court's ruling was the climax of a long legislative and legal battle of the pipeline company to complete its project, practically completed except for connecting links under roads and railroad right-of-ways.

The original suit was filed by the solicitor general in behalf of taxpayers at Macon, Ga. There, Judge Malcolm Jones issued the injunction restraining further work on the pipe line. The state Supreme Court recently ruled that there was no proper basis for the lower court suit, and dismissed the case.

The court decision, which will allow the pipe line to be completed in 60-90 days, emphasized that the national-defense question and the alleged gasoline shortage were not considered in arriving at the decision. The privilege of obtaining right-of-way by condemning under federal law was recently granted to Southeastern Pipe Line Co. by President Roosevelt.

Panhandle Eastern Asks F.P.C. For Permission to Take Up Pipe

The Panhandle Eastern Pipe Line Co. has asked the Federal Power Commission for permission to take up an 8-in. pipe line from its main transmission line and used to serve the towns of Mildred and Kincaid in eastern Kansas. The salvaged pipe would be used to lay a line to the corporate limits of Galesburg, Ill., to augment the gas supplied to Illinois Iowa Power Co. A contract for laying the Galesburg lateral has been awarded to Oil States Construction Co.

Examiner Samuel H. Crosby decided to recess until October 6 a Federal Power Commission hearing on rates of the Panhandle Eastern Pipe Line Co.

He said attorneys agreed on the suspension to allow counsel for Detroit and Wayne County to prepare answers to testimony of company officials that the rates were based on financial requirements.

The city and county have asked the commission to order a reduction in the rate of 32 cents a 1,000 cu. ft. for fuel distributed in the Detroit area.

P. McDonald Biddison, consulting engineer of Dallas, testified that the company needed all its current revenue to meet operating costs and necessary expansion.

Illinois Pipe Line Co. Plans Parkersburg Outlet

The Illinois Pipe Line Co. was granted a certificate to construct and operate a crude-oil pipe line between its existing line near Lancaster, Wabash County, Illinois, and the newly developed Parkersburg pool in Bonpas Township, Richland County, Illinois, according to a recent announcement of the Illinois Commerce Commission.

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THE OIL AND GAS JOURNAL
Book Department

He Bet $6,800.00 on his own NOSE

JOHN'S NOSE is every bit as good as the next fellow's. He can tell beer from sour milk at the first quick whiff, knows when spring is in the air, and can't resist the call of hunting season when his nose picks up the crisp, faint dried leaf aromas of fall with a touch of wood smoke in the air.

But John's nose was made for only certain kinds of analysis work—it is not a complete laboratory, although he has considered it an infallible core analysis laboratory for lo these many years. On his last well his nose threw him for this $6,800 loss when just the other day he looked at and smelled a richly saturated core and instantly decided with 28 feet of this sand he was taking no risk at all in setting pipe at 4,780 . . . and he did. Testing proved the sand so tight he could never make a commercial well.

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FIELD DEVELOPMENTS...

HIGHLIGHTS FROM THE WEEK'S NEWS—

Completions reported during the past week maintained their high level, being 10 above those reported the previous week. Oil wells were up 44 while gas wells and dry holes were down 19 and 15, respectively. In the monthly summary presented on Pages 110 and 111 of this issue, August completions show a slight decline below those of July. This does not exactly reflect the trend of activity, however, as some districts are reported on a weekly basis and in these sections 5 weeks' totals were included in the July figures against 4 in August. Weekly figures on September activity show that drilling is continuing at the same rate as in previous months. In 1940, May was the peak month with 2,750 completions with a decline of 41 in June, 83 in July, and 91 in August. This year, June's total was 44 below that of May but July showed an increase of 540 wells and August is 174 wells below that high level. Present indications are that September will run about abreast of August or more than 500 ahead of September 1940.

With discoveries at a high level and demand exceeding previous peaks, the only disturbing factor from the standpoint of drilling activity is possible shortages of pipe and other materials. There are indications that this shortage is now being felt locally but it has nowhere reached a point where a rapid reduction in drilling activity is foreshadowed. A decline which would bring the year's total below that of 1940 appears unlikely.

This week's figures reflect an abnormally high proportion of oil wells. This single figure does not reflect a trend, other than a high proportion of discoveries during the past year.

ARKANSAS: Of three recent Smackover lime tests, two are abandoned and the third started off as a small producer making considerable water. This test, 5 miles west of McKamie, is gradually improving as the water declines and may either open up a new field along the McKamie strike or provide a major extension to that field (p. 75).

EAST TEXAS BORDER: Grady Vaughn's deep test in Shelby County is showing oil in the Paluxy and casing has been ordered for a test (p. 75).

LOUISIANA GULF COAST: The deep sand on the south flank of Gueydan has been extended and an unusually thick section of sand was logged in the outpost. The importance of the deep Wilcox production at Neale may soon be gaged as two wells are nearing the pay. Occurrence of oil in the lower Wilcox this far downdip would greatly extend the trend play in the coastal area (p. 104).

APPALACHIAN: The deep tests to the Onondaga and Oriskany are making slow progress with little encouragement, except in the Ravenswood district where good Oriskany production is being obtained (p. 96).

WYOMING: The Wertz and Rock River fields are again extended one location as operators move slowly out from the proven area (p. 89).

ILLINOIS: The best wildcat showing last week was in Gallatin County where a test near Ridgway was showing up well in the McClosky. A new Rosiclare pool has been found near Kinmundy in Marion County and Franklin County has its first Benoist production in the North Benton pool opener (p. 76).

CALIFORNIA: A shallow field has been opened up in the Dyer Creek area in Kern County. As in most fields on the eastern rim of the basin wells will probably go on the pump immediately but low cost and high yields make the area popular. After much speculation, it now appears as if Greeley and Rio Bravo may be a single field with only a small saddle between them. Santa Maria Valley is extended to the west by a well which seems to assure much more development in this direction (p. 82).

SOUTHWEST TEXAS: Whether or not the Frio will produce over a large area in the Luby field may depend on the result of a test on a North Luby outpost. On the southwest flank of Stratton, attempts are being made to open up the first oil production on the west side of the dome. New sands have been found at Randado and Kelsey (p. 86).

MICHIGAN: Three big wells were added to Reed City which now produces nearly one-third of the state's oil and has more than offset the production decline since the first of the year. Gulf's deep Monitor well is making a big gasser in the Salina, after having been plugged back from the St. Peter (p. 102).

WEST TEXAS: While the Sand Hills and Sand Hills Extension pools are linked by a good producer, there is a definite possibility that the extension area may be greatly enlarged by a test now drilling south of the extension discovery. This well is running high on the Simpson. The Terry County sector of Slaughter received its largest producer during the week (p. 99).

WEST CENTRAL TEXAS: The Strawn sand is showing oil in a test between Novice and Goldsboro in Jones County (p. 92).

EAST TEXAS: As operators began a drilling campaign in the east extension of Hawkins, a ½-mile north extension was assured. Tests near Groesbeck and Athens appear promising in the Lower Cretaceous (p. 105).

TEXAS GULF: A prospective major extension to Texana or a new pool in the Frio sand will probably keep Jackson County in the limelight for some months longer. Montgomery County's prospective Wilcox pool opener is held up for casing and a tight well in Lavaca County is reported to have several shows in the Wilcox (p. 101).

NORTH TEXAS: A new Strawn sand pool has been opened in western Young County. The Coleman pool in eastern Archer County has the Mississippi lime as the second pay and Mississippi lime production at Olney in Young County has been extended (p. 92).

KANSAS: A test between Zenith and Stafford suggests the possibility that the two pools may eventually be joined. West Trapp is extended ½ mile south and either a new pool or a 1½-mile east extension in the Penokee pool is assured in Graham County (p. 72).

OKLAHOMA: Harry Miller's wildcat just west of the city limits of Guthrie is closely watched as it is running high and a successful completion would set off a drilling boom in the highly subdivided surrounding area (p. 81).

COMPLETIONS IN ALL FIELDS . . .

(Week Ended September 20, 1941)

	Oil	Gas	Dry	Total	1941 total comp. to date	1940 total comp. to date
N. Y., Pa., and W. Va.	94	21	3	118	4,252	4,026
Ohio	12	15	10	37	1,193	1,109
Indiana	3	0	3	6	365	286
Kentucky	2	2	5	9	470	412
Illinois	84	0	17	101	2,543	2,776
Michigan	8	0	8	16	622	825
Kansas	33	0	11	44	1,583	1,335
Nebraska	2	0	0	2	69	29
Missouri, Iowa	0	0	1	1	26	25
Oklahoma	36	4	14	54	1,378	1,356
Texas:						
North Central Texas	31	1	16	48	1,945	2,033
West Texas	54	0	1	55	1,609	1,416
Texas Panhandle	22	0	2	24	467	423
Eastern Texas	16	0	4	20	776	429
Texas Gulf Coast	22	0	7	29	798	880
Southwest Texas	34	1	12	47	1,332	1,604
Total Texas	179	2	42	223	6,927	6,785
North Louisiana	12	2	5	19	520	441
Louisiana Gulf Coast	13	0	4	17	642	759
Total Louisiana	25	2	9	36	1,162	1,200
Arkansas	0	0	3	3	134	124
Mississippi and Southeast	6	0	2	8	185	156
Montana	5	3	2	10	207	167
Wyoming	5	1	1	7	141	120
Colorado	0	0	0	0	25	12
New Mexico	0	0	0	0	205	486
California	18	2	2	22	809	756
Total United States	512	52	133	697	22,296	21,985
Total previous week	468	71	148	687		
Week ended Sept. 23, 1940	413	49	143	605		

Ellenburger Structure Large in West Wichita County, Texas

By R. MARNE SANFORD

WICHITA FALLS, Tex., Sept. 22.—The K.M.A. deep field and the Electra deep field, both in western Wichita County, North Texas, comprise one of the largest productive Ellenburger lime structures yet discovered.

Most of the development in the K.M.A. deep field consisted of deepening previously completed wells. However, entirely new wells are now being drilled. The deepening procedure is being employed in the Electra district and to better advantage since the wells there are practically depleted, and since the old holes have to be deepened only about 900 ft. to reach the Ellenburger lime.

There are three productive spots in the entire area at present, though the planned exploration is likely to open more during the coming months. The K.M.A. deep field itself is located in the southwestern part of the original K.M.A. field and is productive from the Ellenburger lime at about 4,350 to 4,400 ft. This was the first spot found and was opened in April 1940 by Fain-McGaha Oil 16-E Griffin. The discovery made 2,450 bbl. daily from 4,352-89 ft. A 3-mile southeast outpost was soon drilled by Magnolia as 3 Thom, just over the county line and in northern Archer County. This test checked more than 100 ft. low, structurally, but still found commercial production in the Ellenburger. The play then spread and development started on a full scale. There are now some 60 producing wells and about 5,000 acres proven for production.

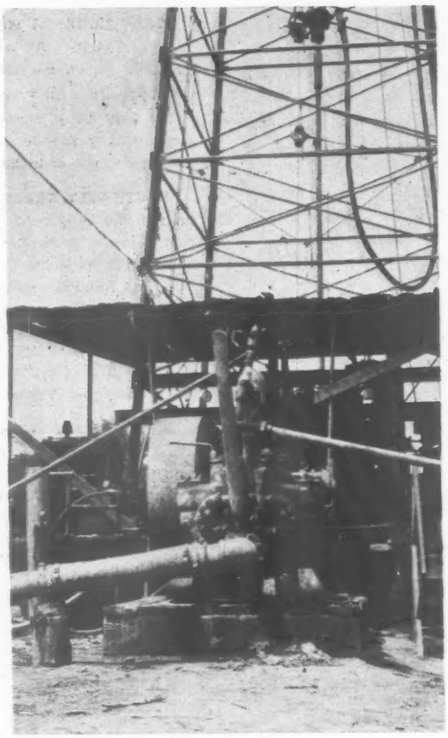
Ellenburger Discoveries

During the past few months some geological correlations have been made with a few deep wells previously drilled in the old Electra area and thus the control points for the accompanying structural map were determined. This subsequent drilling in the Electra area has to date resulted in opening two additional Ellenburger lime-producing spots and possibly still another. About midway between K.M.A. deep and the town of Electra is a spot in Section 6, S. B. Burnett Survey, at the extreme lower point of contour line —2,400 ft. (marked by middle arrow on map). Here Magnolia 79 Burnett, an old shallow well, was deepening in search of production in the Ellenburger horizon. Other wells are planned in the area, most of them to be deepening jobs of the shallow semi-depleted holes.

In Section 15, Block 13, H.&T.C. Survey, about 4 miles west of Electra and in extreme eastern Wilbarger County, there is another Ellenburger lime-producing spot. It was discovered in June of this year by Magnolia 65 Waggoner, an old well deepened. The discovery was completed for 64 bbl. daily from 2,992-96 ft. in the Ellenburger lime. Two additional wells have been completed in the area and others are preparing to start.

One mile immediately north of the town of Electra Magnolia is preparing to deepen its 77 Jennie Lee Allen, Section 224, Waggoner Colony subdivision. Deepening in the Electra area is particularly favorable since the Ellenburger lime is only about 3,000 ft. from the surface.

Of the three most favorable spots for Ellenburger production only the actual K.M.A. high has yet been amply tested and found productive. The Ellenburger high with some 200 ft. of closure in extreme southeastern Wilbarger County and just west of K.M.A. has had only one well drilled to the deep level. It found shows of oil but failed to make commercial production. This area has been productive from three different zones in the lower Strawn series for several years.



A drilling rig in the increasingly active K.M.A. deep Ellenburger lime area of western Wichita County North Texas

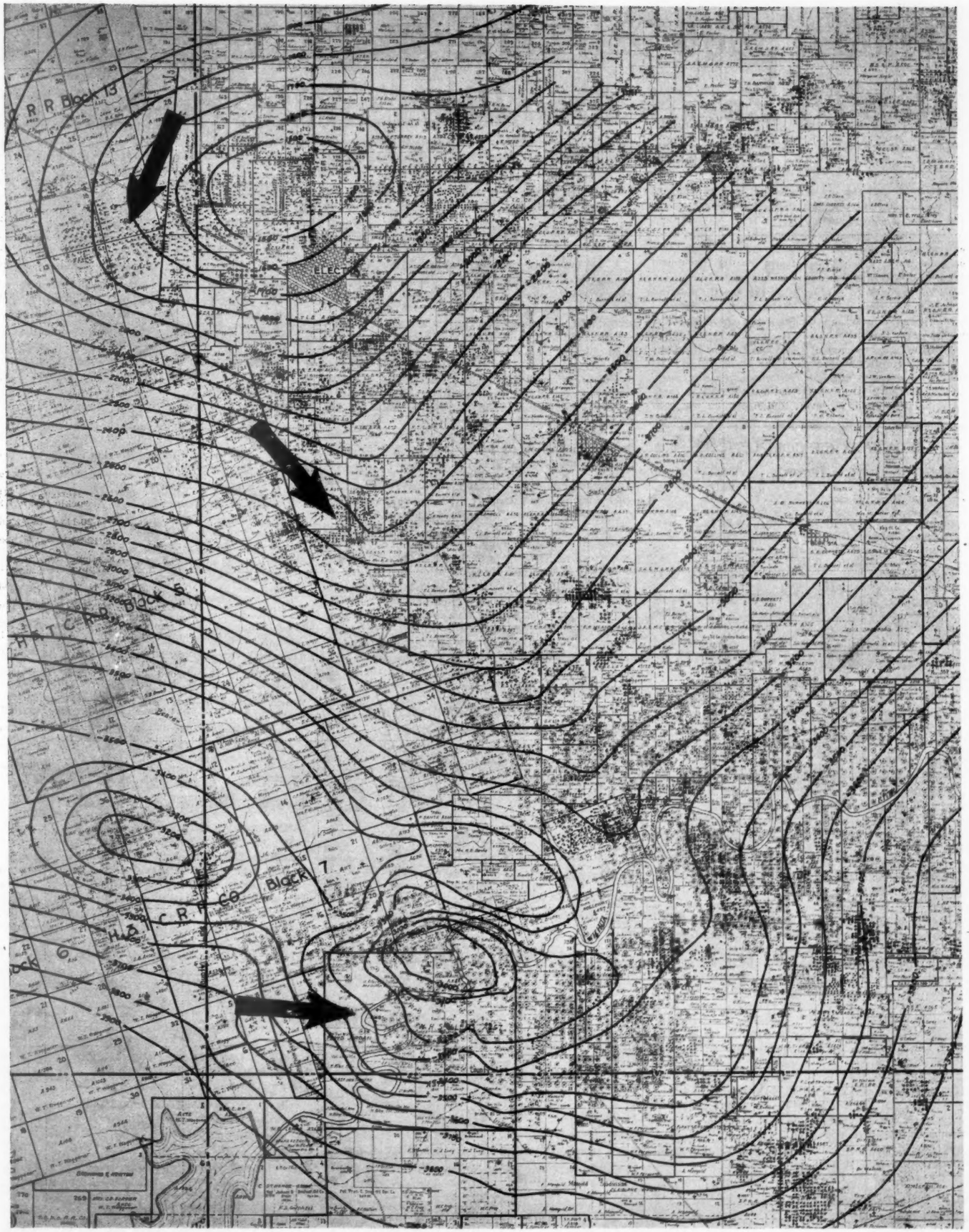
Magnolia's new deepening operation just north of the town of Electra will be the first actual test for the top of the structure. This high has at least 150 to 175 ft. of closure. It is thought that since one of the three productive areas in the region is midway between two areas of closure, continuous production may be expected from the K.M.A. deep area north to the Electra vicinity regardless of the lack of actual closure and that production will be governed by porosity.

There are several deep dry holes in the vicinity which were barren in the Ellenburger, but these are not expected to slow the deepening programs which are under way and the ones which are preparing to start during the coming weeks. All three of the areas of closure are located along the large geological feature called the Electra arch where it joins the Red River uplift which parallels the Red River between Texas and Oklahoma.

One of the most favorable features of the entire development is that the Ellenburger lime is proving more prolific than the regular K.M.A. lime wells in that part of the field, consequently most new tests are now projected primarily to the deep pay. The majority of the K.M.A. deep wells have initial daily potentials in excess of 1,000 bbl. and a recovery figure of 10,000 bbl. per acre has been given the Ellenburger lime in this area, the Electra region has not been sufficiently explored to determine a recovery-per-acre figure for the Ellenburger lime. However, based on the daily potentials of the two producing spots there, it will probably not equal that of the area to the south. Somewhere between 4,000 and 5,000 bbl. per acre will probably prove to be in line.

With some 6 to 10 rigs active in the K.M.A. deep sector and various exploratory holes due to start throughout the entire territory, this new deep-drilling campaign will undoubtedly be the most active play in North Texas for several months to come.

Bud Dall, driller for Fain-McGaha Oil Corp., on one of its Ellenburger lime wells in the K.M.A., deep field of Wichita County, North Texas



Heydrick Map Co., Wichita Falls

Structure contour map on the top of the Ellenburger (Ordovician) lime throughout western Wichita County, North Texas. The contour interval is 100 ft. Note the two areas of complete closure at the southern end of the map and the one in the Electra region to the north. The arrows point to recently opened Ellenburger lime production in the area. The largest of these spots is the 60-well K.M.A. deep area indicated by the southernmost arrow

Wildcat Show and Large Well Step Up Zenith Area Play

By ROBERT INGRAM

TWO new wells in the Zenith pool area of Stafford last week indicated that the field—already one of the largest and most active in the state—is still only in the initial stages of development and may soon extend over more than twice its present area. One of these wells, Tyson Dines et al 1 Martha Blackburn, E½ NW NW 18-24-11w, was a wildcat east of the north edge of the city of Stafford, almost exactly midway between the west edge of Zenith and the Stafford pool opened a year ago by Stanolind Oil & Gas Co. in SW 15-24-11w.

It drilled into the top of the Viola lime at 3,838 ft., 11 ft. structurally higher than the Selby Oil & Gas Co. 1 Blackburn, a dry hole ¾ mile to the southwest, and recovered 2 ft. of spotty saturation. Water came in below the Viola, however, and operators squeezed after drilling 18 ft. into the formation in an attempt to shut it off. Should the well be a producer, it may eventually prove to be a connecting link between the Zenith and Stafford pools which lie along a shore line trap.

The Blackburn test, originated by Selby Oil & Gas, Jack O'Haver and Dwight H. Thompson, all of Tulsa, was later turned to Dines Brothers, W. E. Porter and Russell H. Volk of Denver. Cities Service Oil Co., now in the thick of far-flung development on the Reno County side of a play also related to the Zenith structure at the new Peace Creek pool holds extensive acreage near the Blackburn test, taken up 7 years ago by the old Empire interests. Skelly Oil Co. and Alf M. Landon also have adjoining acreage.

The other Zenith well was in the pool proper, also drilled by the Dines group of Denver. It was 2 Hunter, E½ NW NW 18-24-10w, completed for a bottom-hole bomb test potential of 22,525 bbl. a day—a potential which in the words of one operator, "had the boys looking at their hole cards." On the test, the well made 901 bbl. daily through a ⅝-in. choke and only drew down 2.5 per cent of available pressure. Three other wells were completed in Zenith last week and there were nine rigs running.

In the Stafford pool, Stanolind 5 Crawford, was bailing rotary mud at total depth 3,822 ft. Fain Drilling Co. was moving in material for 3 O'Connor.

West Trapp Pool Gets Half-Mile Extension

The West Trapp pool of Russell County was extended ½ mile southward by Derby Oil Co. of Wichita and Crow Drilling Co. of Hoisington. Their 1 Dietz, located in the N½ NW NE 25-15-14w, made 237 bbl of oil per day, on initial temporary commission po-tential. Arbuckle dolomite was topped at 3254 ft. and drilled to a final total depth of 3,259 ft.

Wildcat Extends Penokee Mile and a Half East

A 1½-mile eastward extension of the Penokee-Lansing pool of Graham County, or a new pool discovery, was assured at a semiwildcat 3⅛ miles due west of Hill City. Cities Service Oil Co. 1 Montgomery, NW 7-8-23w, topped the Lansing-Kansas City lime series at 3,550 ft., drilled saturation from 3,601-02 ft., from 3,630-37 ft., and from 3,725-51 ft. After drilling to a total depth of 4,018 ft. in the Arbuckle dolomite operators set and cemented 5½-in. casing at plug-back depth of 3,825 ft. prior to running gun perforator opposite the porosity and saturation zones in the Lansing.

Trego County Discovery Disappointing On Early Swab Tests

Trego County drew wildcat field interest after A. D. (Dick) Barnett and Barnett Drilling Co. of Wichita and associates tested 1 J. M. Schaefer. The well, located in the SW NE 10-12-21w, originally filled 450 ft. with 35-gravity oil within a few hours after crews drilled out the cement plug in the 5½-in. casing set at 3,992 ft. However after the lower 5 ft. of plug was drilled out to the original rotary total depth of 3,997 ft. in the Arbuckle dolomite topped at 3,991 ft., crews swabbed the hole nearly dry, as efforts to obtain additional fillup failed. On last field report, acid was being jetted into the formation to obtain a commercial fillup. Nearest oil production is the Gugler (Arbuckle) discovery well, situated 4 miles to the southeast of the Schaefer.

SUMMARY OF COMPLETIONS

Kansas

	No.	Bbl.	Footage
Oil wells: Bemis-Shutts	1	161	3,665
Bloomer	2	3,035	6,528
Burnett	1	2,778	3,480
Coralena-Trapp	4	5,212	13,049
Cunningham	1	3,000	3,533
Kraft	2	3,058	6,657
Silica district	3	2,164	9,974
Zenith	4	6,034	15,166
Other pools	14	11,039	43,406
Wildcats	1	352	3,626
Dry holes: Fields	8	.....	20,566
Wildcats	3	.....	7,253
Total	44	.....	136,903

Nebraska

	No.	Bbl.	Footage
Oil wells	2	750	4,580

Missouri

	No.	Bbl.	Footage
Dry holes: Wildcats	1	.....	430

AVERAGE DAILY PRODUCTION

LEADING KANSAS FIELDS

	Sept. 20	Sept. 13
Augusta	1,300	1,250
Bemis-Shutts	11,250	10,250
Bloomer	6,800	7,400
Burnett	12,400	13,100
Burrton	7,400	7,550
Chase	7,850	5,600
Elbing	900	900
El Dorado-Towanda	7,250	7,200
Geneseo	6,450	7,650
Graber	2,100	2,300
Greenwood County	8,900	8,900
Hollow-Nikkel	1,400	1,350
Keesling-Midway	950	1,100
Lerado	800	650
Lorraine	1,700	450
Oxford	550	600
Rainbow Bend	900	950
Raymond	1,500	2,100
Ritz-Canton	3,850	3,750
Trapp	23,250	22,600
Balance Russell County	28,400	27,250
Sedgwick County	3,100	3,050
Silica	23,300	19,800
Voshell	1,900	1,800
Wellington	850	850
Wherry	2,950	1,700
Zenith	10,800	10,950
Others	80,000	73,000
Total Kansas	258,800	244,050

KANSAS COMPLETIONS

Wildcats

Ellis County: Darby 1 Drelling, NE SE SE NW 28-13-17w, pumped 352 bbl. oil and 144 bbl. water, Lansing 3,312½-20 ft., P.B. 3,338 ft., T.D. 3,626 ft., *pool opener.*

Butler County: Plymate-Bornholdt 1 Falk, SW SW NE 14-29-3e, dry, T.D. 2,740 ft.

Greenwood County: Winkleman & Abels 1 Hillard, NE NE NW 27-27-11e, dry, T.D. 1,300 ft.

Russell County: Phil-Han 1 Ney, NW SW SW 2-15-12w, dry, T.D. 3,213 ft.

Fields

Aldrich, Ness County: Continental 1 Thompson, NW NW NE 25-18-26w, dry, T.D. 4,437 ft.

Bedford, Stafford County: Texas 3 Gerdes, 28-23-12w, swabbed 34 bbl., Arbuckle, T.D. 3,862 ft.

Big Creek, Russell County: C. C. Cummings 1 Mudd, 6-15-14w, 42 bbl., Arbuckle, T.D. 3,182 ft.

Bloomer, Ellsworth County: Transwestern 3 Stumps, E½ NE SW 33-17-10w, 2,584 bbl., Arbuckle, acid, T.D. 3,265 ft.

Herndon 2 Stumps, W½ SE SW 33-17-11w, 451 bbl., Arbuckle, T.D. 3,263 ft.

Bornholdt, Rice County: Westgate-Greenland 5 Johnson, N½ SW SE 24-20-6w, 362 bbl., Mississippian chat, T.D. 3,317 ft.

Burnett, Ellis County: Champlin 11-D Hadley, N½ NW SE 17-11-17w, 2,778 bbl., Arbuckle, acid, T.D. 3,480 ft.

Coralena, Russell County: Stanolind 1-B Letch, S½ SE SW 4-15-13w, 3,000 bbl., Kansas City lime, acid, T.D. 3,000 ft.

Cunningham, Pratt County: Drillers 2 Gerber, S½ SE NE 35-27-11w, 3,000 bbl., Lansing-Kansas City, acid, T.D. 3,533 ft.

Douglas, Butler County: I. W. Murfin 1 Banfill, SW SW SE 18-29-4e, dry, T.D. 475 ft.

Dubuque, Russell County: Luther Mackall 1 Henning, SE SE NW 27-15-12w, dry, T.D. 3,344 ft.

Dunaway, Greenwood County: Aikman & Braden 1 Ensley, NE SE SW SE 22-22-13e, 10 bbl., Burgess, 1,803-16 ft., T.D. 1,833 ft.

Edwards, Ellsworth County: Continental 2 Kunkle, SE NE SW 28-17-8w, 148 bbl., Arbuckle, T.D. 3,247 ft.

Geneseo, Rice County: Continental 1 Meyer, SW NE SW 30-18-7w, 3,000 bbl., Arbuckle, acid, T.D. 3,210 ft.

Aladdin 1 Gray, E½ NE SE 35-18-8w, dry, T.D. 3,382 ft.

Gibson, Cowley County: Sinclair 2 Gibson, 29-32-3e, swabbed 69 bbl., Bartlesville, T.D. 3,393 ft.

Greenvale, Russell County: Cities Service 1 Zeman, SW SW 3-15-12w, 3,000 bbl., Gorham sand, T.D. 3,250 ft.

Haferman, Rice County: McPherson 1 Keller, SW SW SE 5-19-9w, dry, T.D. 3,338 ft.

Henne, McPherson County: McBride 1 Anderson, S½ NW NE 21-17-1w, 745 bbl., Mississippian chat, T.D. 2,676½ ft.

Kraft, Barton County: Gulf 1 Kroutwurst, N½ NE SE 9-17-11w, 3,000 bbl., Arbuckle, T.D. 3,281 ft.

Skelly 1 Schneweis, S½ SW SW 4-11-17w, swabbed 58 bbl., Arbuckle, T.D. 3,376 ft.

Krier, Barton County: Skelly 1 Esfeld, W½ SE SE 29-16-11w, 3,000 bbl., Gorham sand, T.D. 3,326 ft.

Polhamus, Greenwood County: Smith & Polhamus 16 Marshall, NE SW NE SW 34-24-9e, 10 bbl., Bartlesville 2,255-38 ft., T.D. 2,340 ft.

Prusa, Barton County: Solar 3 Schartz, SE NE NE 18-16-11w, swabbed 43 bbl., Kansas City lime, T.D. 3,321 ft.

Rick, Barton County: Springer 2 Rick, SE SW SW 1-19-11w, 239 bbl., Lansing-Kansas City, T.D. 3,092 ft.

Severy, Greenwood County: Merridith 1 Baker, W½ SE NW 8-28-11e, dry, T.D. 1,504 ft.

Shutts, Ellis County: T. M. Deal 2 Bemis, 4-12-17w, 161 bbl., Arbuckle, T.D. 3,665 ft.

West Silica, Barton County: Sharon 1 Herter, S½ S½ NW NE 17-20-11w, 1,158 bbl., Arbuckle, acid, T.D. 3,311 ft.

Texas 4 Koch, W½ SW SW 7-20-11w, 937 bbl., Arbuckle, acid, T.D. 3,337 ft.

C. E. Ash 2-C Schartz, E½ NE SE 12-20-12w, swabbed 69 bbl., Arbuckle, T.D. 3,326 ft.

Trapp, Barton County: Shell 7-A Erlich, W½ SE NW 18-17-13w, swabbed 53 bbl., Arbuckle, acid, T.D. 3,362 ft.

Cities Service 5-A Krug, SW SE NE 24-15-14w, 963 bbl., Arbuckle, acid, T.D. 3,342 ft.

Cities Service 2-F Krug, S½ NW NE 13-15-14w, 1,196 bbl., Arbuckle, acid, T.D. 3,345 ft.

West Trapp, Russell County: Derby 1 Dietz, N½ NW NW 22-15-14w, swabbed 237 bbl., Arbuckle, T.D. 3,257 ft.

Turner, Cowley County: McKnab 1 Shields, SE NW SE 19-32-6e, dry, T.D. 2,271 ft.

North Virgil, Greenwood County: James Henderson 1 Imthrun, NW NE NE 4-23-13e, dry, T.D. 1,815 ft.

Zenith, Stafford County: Alf Landon 5 Union Central, N½ SW NW 7-24-10w, 193 bbl., Misener, T.D. 3,714½ ft.

Stanolind 5 Kirkpatrick, W½ NW NW 15-24-11w, swabbed 77 bbl., Viola, T.D. 3,830 ft.

Tyson Dines 2 Hunter, E½ NW NW 18-24-10w, 3,000 bbl., Viola, acid, T.D. 3,808 ft.

Stanolind 1 A. Fuller, SE SW 11-24-11w, 2,764 bbl., Misener, T.D. 3,814 ft.

Two Wildcats Started on Mapped Structures in Forest City Basin

ST. JOSEPH, Mo., Sept. 22.—Two interesting wildcats have been started in the Forest City basin, one in Iowa and one in Nebraska. In Montgomery County, Iowa, Ohio Oil Co. is drilling 3 miles north of Red Oak on a structure it mapped by core drilling. In Richardson County, near Barada, Skelly Oil Co. is drilling near a point at which it previously drilled a stratigraphic core hole.

Ohio Oil Co. is drilling no wells at this time at Falls City as the General Geophysical Co.'s rig was taken to the Iowa job. Most of the company's wells lately have been drilled by that rig. The company had approximately a 300-bbl. well at 2 Keim-Workman in the Falls City pool and was waiting to test 2 Sibbernsen, Account 2.

Skelly 5 Davisson made about 450 bbl. daily in the lower Hunton lime and the company was starting 5 Wallraff to that zone.

NEBRASKA COMPLETIONS

Richardson County, Falls City pool: Ohio 2 Keim-Workman, NE NE NW 18-1n-16e, Hunton lime, est. 300 bbl.

Skelly 5 Davisson, SW NW NE 20-1n-16e, perf. 2,271-82 ft. in Hunton, 500 gal. acid, est. 450 bbl.

MISSOURI COMPLETION

Wildcat, Vernon County: Eastman et al 1 Triangle S ranch, 7-37n-29w, dry at 430 ft.

MISSOURI DRILLING REPORT

Caldwell County: John C. Hart 1 Bridgewater Bros., NE NE 28-56n-28w, show gas 265 ft., show oil 278 ft., drilling 474 ft.

Vernon County: Eastman et al 2 Triangle S ranch, N½ NW 7-37n-28w, spudded and S.D.; high water.

IOWA DRILLING REPORT

Montgomery County: Ohio 1 Peterson, SE SE 5-72n-38w, spudded.

Relation of McKamie Outpost To Main Field Not Clear

By R. MARNE SANFORD

SHREVEPORT, La., Sept. 22.—Either extending the McKamie field of Lafayette County, Arkansas, 4 miles to the west or opening a new deep field in the Smackover lime, Tide Water-Seaboard 1 Moore the past week reported flowing 42.5-gravity oil.

The wildcat is located in SW SE 29-17s-24w and has been very closely watched for the past few weeks. Difficult completing conditions have delayed the final gaging of the test and may still delay it for some time. About 10 days ago only salt water with a slight show of gas had been recovered on drill-stem tests from 9,300-49 ft. This zone was squeezed off and casing was perforated from 9,330-40 ft., a thinner section in the same zone, and when tested the well flowed 5 bbl. of oil per hour through ⅛-in. choke. Immediately prior to this test the well had made 9 bbl. of fluid per hour, 30 per cent salt water, through a ¼-in. choke. The flow of 5 bbl. per hour was under tubing pressure of 1,450 lb. and casing pressure of 2,325 lb. Definite future course of the wildcat was not determined, however, further testing is expected for several days before taking final completion gage.

The wildcat topped the Nacatoch at 1,820 ft., Saratoga at 2,210 ft., Tokio 2,900 ft., Annona 2,557 ft., Paluxy 3,410 ft., massive anhydrite 4,625 ft., James 5,360 ft., Buckner 9,110 ft., and Smackover at 9,262 ft.

Two Closely Watched Wildcats Abandoned as Dry

Also in Lafayette County Ohio 1 Garner, NW SW 13-16s-24w, another deep Smackover lime test, was quit as a failure the past week. It topped the salt at 7,553 ft. and penetrated to a total depth of 7,578 ft.

In Union County, Delta Drilling Co. 1 Pickering, another Smackover lime test, was quit at a total depth of 7,970 ft. after finding the horizon at 7,856 ft. and testing dry therein.

New Wildcat Locations

Out of a total of five new locations for the week in the Arkansas fields, two were in wildcat territory. One each was located in Clark County and Nevada County. The former was Coker Oil 1 Cabe, SW SW 25-10s-19w. In Nevada County Barney Dunlap staked 1 Hart, SE SW 17-13s-21w.

ARKANSAS COMPLETIONS

Wildcat, Union County: Delta Drilling Co. 1 Pickering, SE NW 32-18s-16w, top Tokio 2,845 ft., James 3,576 ft., Smackover 7,856 ft., dry at 7,970 ft.
Wildcat, Lafayette County: Ohio Oil 1 Garner, NW SW 13-16s-24w, top Midway 918 ft., Arkadelphia 1,649 ft., Nacatoch 1,720 ft., Annona 2,263 ft., Buckner 6,670 ft., Smackover 6,937 ft., salt 7,553 ft., dry at 7,578 ft.
Magnolia, Columbia County: Porter & Perry 1 Baker, NW SE NE 13-17s-20w, dry at 3,700 ft.

ARKANSAS WILDCAT REPORT

Clark County: Coker Oil 1 McMillan & Cane, SW NE NE 34-10-19, 8¼-in. 40 ft., S.D. 420 ft.
Coker, Grieves 2 Williams, NE NE 7-11-19, 8-in. 50 ft., S.D. 605 ft.
Coker Oil 1 Cabe, SW SW 25-10s-19w, location.
Columbia County: Wakefield Oil 1 Baker, SE SE NE 13-17-20, S.D. 3,700 ft.
Howard County: De Grazier 1 Dierks Lbr. Co., SW SW 7-8s-28w, drilling 1,252 ft.
Jefferson County: Curtis-Two Oil 1 Southern Kraft Co., SE NE 35-3s-11w, S.D. 60 ft.
Lafayette County: Tide Water-Seaboard 1 Moore, SW SE 29-17s-24w, Nacatoch 1,820 ft., Saratoga 2,210 ft., Tokio 2,900 ft., Annona 2,557 ft., Paluxy 3,410 ft., massive anhydrite 4,625 ft., James 5,360 ft., Buckner 9,110 ft., Smackover 9,262 ft., perf. casing 9,330-40 ft., flowed 5 bbl. oil per hour, ⅛-in. choke, 42.5 gravity.
Lee County: Stanley A. Thompson 1 Comer, NE NE NE 17-3n-2e, drilling 3,711 ft.
Lincoln County: J. S. Moore 1 Payne, E½ SE 18-10s-7w, derrick.
Nevada County: Coker Oil 1 DeWoody, NE NW SW 23-11s-20w, S.D. 1,100 ft.
Barney Dunlap 1 Hart, SE SW 17-13s-21w, location.
Prairie County: Alvin E. Stark 1 Fidelity Mutual, NE SW 16-2n-6w, S.D. 1,315 ft.
Union County: Atlantic Refining 1 Doris unit, NE NW 15-17s-18w, location.
Delta Drilling Co. 1 Nelson, W½ SE NE 26-17s-15w, S.D. 3,822 ft.

SUMMARY OF COMPLETIONS

North Louisiana

	No.	Bbl.	Footage
Oil wells: Bellevue	1	8	425
Caddo	5	446	9,896
Homer	1	9	1,295
Little Creek	1	142	2,700
Nebo	2	284	8,127
Olla	1	116	4,601
Gas wells: Monroe	2	*2.85	4,347
Dry holes: Trout	1	.....	3,454
Wildcats	4	.....	20,290
Total	19	.....	55,135

Arkansas

	No.	Bbl.	Footage
Dry holes: Columbia	1	.....	3,700
Wildcats	2	.....	15,548
Total	3	.....	19,248

*Million cu. ft.

Wilcox Trend Play Gains Momentum

In spite of numerous failures throughout Central Louisiana, the deep Wilcox zone wildcat play continues to gain momentum and embrace new areas of exploration. During the past week there were four failures, one each in Grant and Tensas parishes and two in La Salle Parish, while to offset this there were two new wildcats staked in La Salle Parish and one in Catahoula. Also a second test has been started in the new Larto Lake field only officially completed as a discovery some 10 days ago.

(Continued on Page 90)

AVERAGE DAILY PRODUCTION

NORTH LOUISIANA

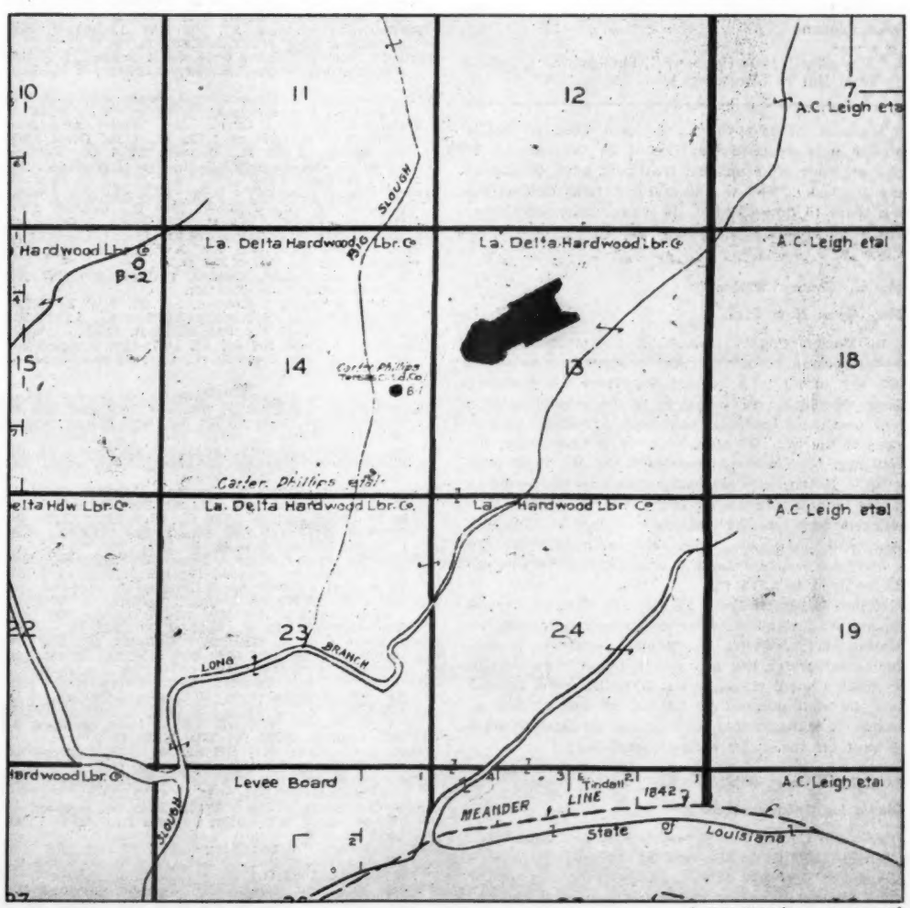
	Sept. 20	Sept. 13
Caddo light	6,270	6,295
Caddo heavy	2,280	2,290
Cotton Valley	17,840	17,810
Cross Lake	2,785	2,790
De Soto and Red River	1,050	1,000
Haynesville	2,670	2,650
Homer	2,890	2,865
Lisbon	2,820	2,775
Little Creek	1,560	1,500
Nebo	3,410	3,290
Olla	13,740	13,495
Rodessa	14,025	14,005
Sligo	2,580	2,550
Sugar Creek	1,520	1,510
Urania	2,240	2,210
Zwolle	1,080	1,050
Total North Louisiana	81,190	80,445

SOUTH ARKANSAS

Atlanta	3,050	3,075
Buckner	2,250	2,240
Champagnolle	870	850
Dorcheat	2,365	2,350
El Dorado	1,470	1,450
Magnolia	19,960	19,985
Nick Springs	790	785
McKamie	4,300	4,310
Rodessa	1,425	1,410
Schuler	16,710	16,645
Smackover light	1,830	1,825
Smackover heavy	13,090	13,010
Troy	1,050	1,050
Urbana	2,700	2,705
Village	890	890
Total South Arkansas	75,810	75,595

MISSISSIPPI

Tinsley	54,760	53,120
Pickens	460	510
Total Mississippi	55,220	53,630



Globe Map Co., Shreveport

Opening a new Wilcox sand field for Central Louisiana and the first oil production for Catahoula Parish, Carter Phillips 1-B Tensas Delta Land Co. made 154 bbl. It is located in NE SE 14-5n-5e, just north of Larto Lake. The second test, 2-B Tensas Delta Land Co., has been staked in NE NE 15-5n-5e

McClosky Well Opens Pool in Central Gallatin County

By STAFF CORRESPONDENT

MATTOON, Ill., Sept. 22.—White County has at last yielded its lead in active operations during a week featured by four wildcat oil strikes and the completion of the state's largest McClosky producer. Wayne County last week stepped into the lead as the most active oil county in Illinois with 30 new tests giving it a total of 94 active operations. There were 20 new tests in White County, making a total of 92 operations. There were 118 first reports for the state, making a total of 532 operations in all state fields.

Most promising of the wildcat ventures was Delta Drilling 1 Minier unit, NE NE NW 28-8s-9e, about 2 miles east of Ridgway in Gallatin County. No. 1 Minier unit swabbed and flowed at the rate of 30 bbl. an hour after an acid treatment of 1,500 gal. in the McClosky. The test is still not fully cleaned out but tends to flow steadily. It is producing from three McClosky breaks at 2,849-55 ft., 2,878-90 ft. and 2,896-2,906 ft.

SUMMARY OF COMPLETIONS

	No.	Bbl.	Footage
Oil wells: Clay City	4	371	11,379
Dale	11	3,225	33,239
Johnsonville	9	16,878	28,333
Louden	6	1,185	15,620
Maunie	7	633	15,686
Mount Carmel	8	910	13,443
New Harmony	5	540	14,671
Rural Hill	2	801	6,402
Woodlawn	13	4,287	25,738
Other pools	15	2,317	37,735
Wildcats	4	672	11,847
Dry holes: Fields*	6	.....	17,601
Wildcats	11	.....	31,736
Total	101	.....	263,430
Recompletions	3	130	.....

*Clay City 1, New Harmony 1, Phillipstown 1, Roland 1, Rural Hill 1, Woodlawn 1.

Marion County Wildcat

May Open New Pool

In Marion County Swan-King 1 Kotva heirs, 36-4n-3e, became a potential pool opener after swabbing 207 bbl. of oil in a 24-hour test from the Rosiclare sand. Opinions are divided as to the possibility of a new pool since dry holes have been drilled on all four sides of the test. Oil men, however, indicated that the well may open a small pool similar to the Tonti pool.

No. 1 Kotva heirs originally drilled to the Devonian which was found to be dry. The hole was then plugged back to the shallower formation and the successful test made. Operators reported that only a slight amount of water was encountered. Total depth of the well is 2,113 ft.

Homer Luttrell 1 Ford, NE NE NW 31-5n-3e, Fayette County wildcat which, after encountering Benoist saturation at 1,884-91 ft., disappointed operators by producing salt water, has been put on pump in an attempt to make a small producer out of it. During a 20-hour test the well pumped 39 bbl. of oil and 37 bbl. of water. It will probably be shot and an attempt made to shut off the water before completion.

Franklin County Wildcat

Shows for Good Producer

Franklin County had prospects of a new pool when oil rose 2,000 ft. in the hole at Oil Carriers, Inc., 1 Kasper, SE SW NW 1-6s-2e, during completion operations. The hole was then bailed dry and in 1 hour filled with oil to a depth of 500 ft. Operators were planning to shoot the well during the latter part of the week and it is believed that such operations will increase production of the well considerably. No. 1 Kasper, the first Benoist producer ever to be completed in Franklin County, is at present estimated at 400 bbl., natural.

Besides taking the lead in active operations from White County for the first time in many weeks, Wayne County can now boast of the largest McClosky producer in the state. Several exceptionally good wells have been completed in the county's prolific Johnsonville pool but all of them were overshadowed last week when Wiser Oil 1 W. H. Matchett, 27-1n-6e, flowed 9,300 bbl. in 24 hour on its initial production test. Larger wells have been completed in the Devonian lime in Illinois but no McClosky well is known to have greater initial output than the Wiser test.

ILLINOIS COMPLETIONS

Wildcats

Franklin County: Grady & Daniel 1 Fitzgerald, SE SE NE 28-6s-3e, dry, Glen Dean 2,324 ft., Barlow 2,575 ft., Cypress sand 2,604 ft., Benoist 2,685 ft., Renault 2,786 ft., Aux Vases 2,796 ft., Ste. Genevieve 2,851 ft., McClosky 2,885 ft., water, T.D. 3,050 ft.

Gallatin County: Angle & Angle 1 J. Daley, SE NW SW 25-8s-9e, Ste. Genevieve 2,814 ft., T.D. 2,864 ft.

Hamilton County: J. J. Callahan 1 Ulrich, SE SE SE 6-6s-5e, dry, Mendard 2,440 ft., Tar Springs 2,682 ft., Glen Dean 2,693 ft., Golconda 2,863 ft., Barlow 2,973 ft., Cypress 2,991 ft., Benoist 3,172 ft., Renault 3,214 ft., Aux Vases 3,227 ft., Ste. Genevieve 3,318 ft., T.D. 3,490 ft.

Texas 1 Lyman, NE SW 31-5s-7e, dry, McClosky 3,192 ft., T.D. 3,219 ft.

Lawrence County: Anderson & Voorhees 1 Williams, dry, McClosky 3,223 ft., T.D. 3,237 ft.

Jordan 5 Buchanan, SE SE NW 12-2n-12w, dry, Kirkwood 1,645 ft., T.D. 1,657 ft.

Richland County: Pioneer Drlg. Co. 1 Schnell, N½ NW NW 25-1n-6e, dry, McClosky 3,207 ft., T.D. 3,224 ft.

Wabash County: L. B. Jackson 1 Breen, SW NW NW 31-2n-11w, dry, McClosky 2,135 ft., T.D. 2,143 ft.

Wabash O. & G. 1 Carrie, dry, Waltersburg sand 1,634 ft., Tar Springs 1,722 ft., Glen Dean 1,904 ft., Barlow 2,136 ft., Benoist 2,274 ft., Renault 2,298 ft., Aux Vases 2,325 ft., Ste. Genevieve 2,383 ft., T.D. 2,445 ft.

Wayne County: Texas 1 Rash, S½ SE NE 7-3n-6e, pumped 56 bbl., Cypress 2,940 ft., Benoist 3,085 ft., Aux Vases 3,185 ft., McClosky 3,336-38 ft. and 3,341-45 ft., T.D. 3,347 ft.

Pure 1-A Marshall, W½ SW NW 16-1s-8e, dry, Fredonia 3,200 ft., T.D. 3,257 ft.

White County: Patton, trustee, 1 Gray, SW SW NE 26-6s-8e, abandoned location.

Morrison & Nash 1 Curtiss, SE SE NW 22-3s-10e, pumped 30 bbl., McClosky 3,178-86 ft., 3,199-3,227 ft., and 3,237-45 ft., T.D. 3,246 ft.

Hiawatha 1 Todd, SE SE SE 18-7s-11e, pumped 206 bbl., 20-qt. shot 2,448-60 ft., Cypress sand 2,445-53 ft., T.D. 2,460 ft.

Fields

Allendale, Wabash County: Stiles 1 Trimble, SE SE SE 35-2n-12w, pumped 65 bbl. and 10 bbl. water, Benoist 1,977-90 ft., 20-qt. shot, T.D. 1,991 ft.

Benton, Franklin County: Adkins 4 Chenault, SE SE SE 25-6s-2e, pumped 358 bbl., 35-qt. shot, Tar Springs 2,104-35 ft.

Benton, North, Franklin County: Mohawk Drlg. 1 Stewart, pumped 380 bbl. oil and 35 bbl. water in 19 hr., Rosiclare 2,789 ft., Glen Dean 2,205 ft., Cypress 2,455 ft., Ste. Genevieve 2,729 ft., T.D. 2,794 ft. *Discovery well.*

Boos, North, Jasper County: Pure 2-A Bergbauer, NW NE SE 8-6n-10e, pumped 171 bbl., McClosky 2,763-75 ft. and 2,790-92 ft., T.D. 2,799 ft.

Boyleston, East, Wayne County: Watkins & Weinert 1 Ferguson, E½ NW NW 1-2s-7e, flowed 730 bbl., McClosky 3,311-18 ft., acid, T.D. 3,322 ft.

Casey, Clark County: Gallatin 1 Gallatin, NE NW SE 19-10n-13w, pumped 11½ bbl., 2½ hr., Mississippi lime 480 ft., T.D. 515 ft.

Clay City, Richland County: Pure 1-C Hasselton, NW NE SE 30-2n-8e, dry, McClosky 3,040 ft., T.D. 3,070 ft.

Pure 1-B Hubble, E½ SE NW 28-2n-8e, pumped 33 bbl., Cypress 2,630 ft., T.D. 2,648 ft.

Pure 2 Garrison, E½ SE SE 36-2n-7e, pumped 56 bbl., McClosky 2,974 ft., T.D. 3,070 ft.

Pure 2-C Keith, W½ SE NE 36-2n-7e, pumped 241 bbl., McClosky 3,006-08 ft., T.D. 3,013 ft.

Pure 2-A Evans, W½ NW NE 28-2n-8e, pumped 41 bbl. oil and 7 bbl. water, Cypress 2,621-30 ft., T.D. 2,648 ft.

Dale, Hamilton County: Kingwood 2 Wilson, SE NW SE 6-6s-7e, pumped 32 bbl., Aux Vases 2,958 ft., shot, T.D. 2,992 ft.

Eason 2 Prince, SE SE NE 36-5s-6e, pumped 108 bbl., Benoist 2,952-76 ft., shot, Aux Vases 3,064 ft., T.D. 3,083 ft., P.B. to 2,976 ft.

Texas 9 M. Davis, SE NE NE 7-6s-7e, swabbed 190 bbl., Aux Vases 2,964 ft., shot, T.D. 3,011 ft.

Texas 10 M. Davis, SW NW NE 7-6s-7e, flowed 395 bbl., Aux Vases 2,947 ft., shot, T.D. 2,987 ft.

Texas 4 R. R. Johnson, NE NW SE 7-6s-7e, pumped 250 bbl., Aux Vases 2,980 ft., shot, T.D. 3,014 ft.

Texas 6 Clark, SE SW NW 7-6s-7e, flowed 650 bbl., Aux Vases 2,984 ft., T.D. 3,026 ft.

Pure 16 Cuffy, NW NW SW 6-6s-7e, flowed 750 bbl., Aux Vases 2,965 ft., shot, T.D. 3,015 ft.

Texas 7 M. Davis, SW NE NE 7-6s-7e, flowed 190 bbl., Aux Vases 2,960 ft., shot, T.D. 3,000 ft.

Texas 8 J. E. Clark, SW SW NW 7-6s-7e, flowed 200 bbl., Aux Vases 2,988 ft., shot, T.D. 3,021 ft.

Texas 7 Clark, NW SW NW 7-6s-7e, flowed 190 bbl., Aux Vases 2,973 ft., shot, T.D. 3,015 ft.

Texas 5 R. R. Johnson, SW NE SE 7-6s-7e, flowed 270 bbl., Aux Vases 2,973 ft., shot, T.D. 3,075 ft.

Dundas, Jasper County: Pure 7 Schinn, S½ SE NE 6-5n-10e, flowed 150 bbl., McClosky 2,759 ft., acid, T.D. 2,805 ft.

Hoffman, Clinton County: J. G. McNeal 2 Knolhoff, N½ NW SW 11-1n-2w, pumped 21 bbl., Cypress 1,178 ft., shot, T.D. 1,192 ft.

Iron, White County: Stinckenhoff 1 Ervin, NE SE NW 26-6s-8e, pumped 7 bbl., deepened from 3,080 to 3,192 ft.

Johnsonville, Richland County: Texas 5 Watson, N½ NW NW 35-1n-6e, flowed 600 bbl. in 18 hr., McClosky 3,103-10 ft. and 3,122-26 ft., acid, T.D. 3,132 ft.

Deep Oil 1 Pennington, N½ NE NW 35-1n-6e, flowed 840 bbl., McClosky 3,123-28 ft. and 3,132-40 ft., acid, T.D. 3,145 ft.

Wiser 1 Lowe, N½ SW NE 33-1n-6e, flowed 1,365 bbl. in 12 hr., McClosky 3,119-24 ft., 3,131-38 ft., and 3,174-91 ft., acid, T.D. 3,230 ft.

United Prod. 1 Hale, N½ NW NE 33-1n-6e, swabbed 55 bbl., McClosky 3,130-36 ft., 3,142-44 ft., and 3,154-56 ft., acid, T.D. 3,190 ft.

Shell 2 McReynolds, S½ NE NE 33-1n-6e, flowed 1,986 bbl., McClosky 3,076-79 ft. and 3,091-93 ft., acid, T.D. 3,107 ft.

Texas 6 Leathers, NW NE SE 28-1n-6e, flowed 1,560 bbl., McClosky 3,080-98 ft. and 3,103-10 ft., acid, T.D. 3,112 ft.

Wiser 1 Matchett, N½ SE NE 27-4n-6e, flowed 9,300 bbl., McClosky 3,077-3,103 ft., acid, T.D. 3,119 ft.

Texas 4 Watson, N½ SW SW 26-1n-6e, swabbed and flowed 350 bbl., McClosky 3,099-3,122 ft., acid, T.D. 3,126 ft.

Ross 1 Rogers, N½ NW SW 26-1n-6e, flowed 822 bbl., McClosky 3,118-21 ft., 3,126-28 ft., and 3,141-44 ft., acid, T.D. 3,172 ft.

Keensburg, Wabash County: Continental 9 A. E. Shultz, SW NE SE 8-2s-13w, pumped 86 bbl. oil and 10 bbl. water, Benoist 2,546 ft., shot, T.D. 2,594 ft.

Linn, Wabash County: Adams Corner O. & G. 3 D. Wright, NE SE SW 9-1n-12w, pumped 5 bbl., Biehl 1,472 ft., shot, T.D. 1,508 ft.

Louden, Fayette County: Carter 11-D Mills, flowed 200 bbl., Devonian 3,005 ft., T.D. 3,120 ft.

Carter 4-D Mills, W½ SW SW 28-8n-3e, flowed 200 bbl., Devonian 3,088 ft., T.D. 3,123 ft.

Carter 5-D Morgan, NW SE 21-8n-3e, flowed 200 bbl., Devonian 3,014 ft., T.D. 3,129 ft.

Carter 6-D Boles, W½ SW SW 21-8n-3e, flowed 200 bbl., Devonian 3,081 ft., T.D. 3,082 ft.

Carter 2 M. Williams, SE NE NE 22-8n-3e, pumped 325 bbl., Cypress 1,465 ft., T.D. 1,583 ft., shot 1,537-45 ft.

Carter 9 Durbin, NE SE SE 4-7n-3e, pumped 60 bbl. oil and 12 bbl. water, sand 1,524 ft., shot, T.D. 1,583 ft.

Maunee, White County: Fields 3 H. Karch, NW SE SE 13-6s-10e, pumped 42 bbl. oil and 12 bbl. water, Aux Vases 2,851 ft., T.D. 2,871 ft., P.B. to 2,217 ft.

Cherry-Kidd & Lambert 7 F. Karch, NE NW NE 24-6s-10e, pumped 94 bbl., Palestine 1,998 ft., shot, T.D. 2,031 ft., P.B. to 2,019 ft.

Cherry-Kidd & Lambert 8 F. Karch, SE NW NE 24-6s-10e, pumped 200 bbl., Palestine 2,010 ft., shot, T.D. 2,028 ft.

Fields 4 H. Karch, SW NE SE 13-6s-10e, pumped 170 bbl., Palestine 2,013 ft., T.D. 2,230 ft., P.B. to 2,026 ft.

First Nat. Pet. Tr. 3 F. Karch A, NW SW NE 24-6s-10e, pumped 90 bbl., Palestine 2,007 ft., shot, T.D. 2,026 ft.

Magnolia 7 Sisson-Higgins, NE NW SE 24-6s-10e, pumped 25 bbl. oil and 2 bbl. water, Bridgeport 1,403 ft., shot, T.D. 1,475 ft.

Cherry-Kidd 2-A Lambert, NW NE NE 24-6s-10e, pumped 12 bbl., Aux Vases 2,943 ft., shot, T.D. 3,025 ft.

Mount Carmel, Wabash County: Kennedy 3 Carson, NE SE SW 16-1s-12w, pumped 335 bbl. oil and 20 bbl. water, Biehl 1,462 ft., shot, T.D. 1,496 ft.

Kennedy 2 Karch, S½ S½ SW 16-1s-12w, pumped 150 bbl. oil and 150 bbl. water, Biehl 1,470 ft., shot, T.D. 1,486 ft.

Dean & Morton 1 Sanford, SE SE NW 21-1s-12w, pumped 40 bbl., Biehl 1,480 ft., shot, T.D. 1,496 ft.

Dean & Morton 2 Sanford, SE SE NW 21-1s-12w, pumped 120 bbl., Cypress 1,979 ft., shot, T.D. 1,993 ft.

First Nat. Pet. Trust 1-C Samuel, NW SE NW 21-1s-12w, pumped 35 bbl., Biehl 1,467 ft., shot, T.D. 1,483 ft.

First Nat. Pet. Trust 2-C Samuel, NW SE NW 21-1s-12w, pumped 35 bbl., Biehl 1,458 ft., shot, T.D. 1,496 ft.

First Nat. Pet. Trust 4 Samuel, SE NE NW 21-1s-12w, pumped 75 bbl., Cypress 1,986 ft., shot, T.D. 2,000 ft.

W. F. Lacy 2 Friend, 50 ft. E of No. 1, 21-1s-12w, pumped 120 bbl., Cypress 1,970 ft., shot, T.D. 1,993 ft.

New Harmony, White County: I. White 2 H. Ford et al, NW NW SE 34-4s-14w, pumped 35 bbl., McClosky 2,874-86 ft. and 3,002-10 ft., acid, T.D. 3,016 ft.

Superior 23 E. M. Fitten-D, N½ SW SW 28-4s-14w, pumped 200 bbl., Benoist 2,695 ft., shot, Cypress 2,582 ft., shot, T.D. 2,732 ft.

Superior E. M. Fitten-D, SE NE SE 29-4s-14w, 140 bbl., Cypress 2,581 ft., Benoist 2,733 ft., both shot, and McClosky 2,963-68 ft. and 2,976-83 ft., T.D. 3,039 ft.

First Nat. Pet. Trust 5 M. Hom, NE NE SE 32-3s-14w, pumped 125 bbl., Benoist 2,688 ft., Aux Vases 2,817 ft., T.D. 2,853 ft., P.B. to 2,845 ft.

Magnolia 2-E Cox, NW NW SE 27-4s-14w, deepened from 2,892 ft. to 2,917 ft., pumped 20 bbl.

Sinclair 8 McDonald, SE NW NW 28-4s-14w, pumped 40 bbl. oil and 20 bbl. water, Cypress 2,604 ft., T.D. 3,031 ft., P.B. 2,710 ft.

Rockhill 3 Reeve, SE SE NW 28-3s-14w, dry, Aux Vases 2,805 ft., T.D. 2,883 ft.

(Continued on Page 97)

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Clinton Tests in Eastern Ohio Give Little Encouragement

By STAFF CORRESPONDENT

ZANESVILLE, Ohio, Sept. 22.—Testing of the Clinton sand at its deeper levels continues in the Ohio area. In eastern Ohio, 8 miles west of Alliance, Stark County, Marlboro Township, Section 19, the wildcat test by J. C. Steiner et al on the Michael Shaffer farm, showed oil in the Clinton. The well made 35 bbl. the first 24 hours after shot, but in 14 days declined to 4 bbl., plugged. The Clinton was found at 4,587-4,627 ft., total depth 4,636 ft.

A deep test by the Texas Gas Utilities, 3 miles north of Chester in Marion Township, Morgan County, found only 6 ft. of badly broken Clinton sand. The test is located in the center of the old second Berea gas field which extends southwest from McConnelsville through Morgan and Athens counties.

Perry County, Ohio, continues active with a test in the Clayton Township oil pool proving dry; a test in Reading Township good for a half million cubic feet of gas and a 20-bbl. well in Thorn Township; in Summit County, there was a fair Oriskany oil well accompanied by some gas.

Other completions were scattered with Coshocton, Meigs, and Muskingum counties yielding fair wells.

OHIO COMPLETIONS

Athens County

Bern Township: Ohio Fuel 2 Earl Dickson, Sec. 11, 470,000 cu. ft. gas, second Cow Run, T.D. 900 ft.

Ashland County

Sullivan Township: Ohio Fuel 1 C. W. Holbrook, Lot 54, dry, no Clinton, T.D. 2,684 ft.

Coshocton County

Perry Township: Blackburn et al 2 Sarah Crawford, Sec. 24, 1,500,000 cu. ft. gas, Clinton, T.D. 3,063 ft.
Rutlege and Mossholder 2 Orville Hughes, Sec. 24, 10,000 cu. ft. gas, Clinton, T.D. 3,186 ft.
Tiverton Township: Ohio Fuel 1 R. L. Hays, Sec. 12, 500,000 cu. ft. gas, shot, Clinton, T.D. 3,370 ft.

Hocking County

Ward Township: Ohio Fuel Co. 7006 Sunday Creek Coal Co., NE Sec. 16, 863,000 cu. ft. gas, Berea, T.D. 1,136 ft.

Holmes County

Paint Township: Ohio Fuel 1 H. Harold, Sec. 33, 380,000 cu. ft. gas, shot, Clinton, T.D. 4,216 ft.

Lawrence County

Washington Township: Portage Prod. 17 Cambria Clay Products, Sec. 13, dry, Salt sand, T.D. 612 ft.

Licking County

Newark Township: Lacknette et al 2 William Gittings, first quarter, 280,000 cu. ft. gas, Clinton, T.D. 2,535 ft.
Newton Township: A. Willey 2 H. W. Gleckner, fourth quarter, 590,000 cu. ft. gas, Clinton, T.D. 2,710 ft.

Lorain County

Penfield Township: Ohio Fuel 1 C. M. Parks, Lot 33, dry, Clinton, T.D. 2,590 ft.

Medina County

Chatham Township: Fred C. Shaner et al 2 George Germain, Lots 32 to 34, inclusive, 70 bbl., Berea, T.D. 489 ft.
Preston Oil Co. D4 D. A. Clapp, Tract 15, Lot 10, 5 bbl., Berea, T.D. 502 ft.
Preston Oil Co. G5 D. A. Clapp, 5 bbl., Berea, T.D. 504 ft.
Preston Oil Co. G6 D. A. Clapp, 5 bbl., Berea, T.D. 496 ft.
Preston Oil Co. J6 D. A. Clapp, 5 bbl., Berea, T.D. 525 ft.
Preston Oil Co. K5 D. A. Clapp, 5 bbl., Berea, T.D. 525 ft.
Preston Oil Co. D05 D. A. Clapp, input, Berea, T.D. 489 ft.
Preston Oil Co. F04 D. A. Clapp, input, Berea, T.D. 492 ft.
Preston Oil Co. G03 D. A. Clapp, input, Berea, T.D. 503 ft.
Preston Oil Co. G04 D. A. Clapp, input, Berea, T.D. 519 ft.
Preston Oil Co. H03 D. A. Clapp, dry, Berea, T.D. 511 ft.
Preston Oil Co. L05 D. A. Clapp, input, Berea, T.D. 517 ft.
Conkling & Holmes O-13 A. B. and Mary Hostettler, Tract 14, Lot 1-2, 10 bbl., Berea, T.D. 506½ ft.
Conkling & Holmes O-14 A. B. and Mary Hostettler, 10 bbl., Berea, T.D. 491 ft.
Conkling & Holmes O-15 A. B. and Mary Hostettler 10 bbl., Berea, T.D. 490 ft.
Hinckley Township: Ohio Fuel 1 Melvin Case, Lot 36, 60,000 cu. ft. gas, shot, Clinton, T.D. 3,309 ft.

Meigs County

Orange Township: Ohio Fuel 1 H. E. Guthrie, Sec. 36, 2,070,000 cu. ft. gas, Salt sand, T.D. 919 ft.
Salem Township: Downie et al 1 Frank Gardner, Sec. 1, 300,000 cu. ft. gas, M-800-ft. sand, T.D. 677 ft.

Monroe County

Bethel Township: Luburgh Co. 7 H. Swartz, Sec. 10, 75,000 cu. ft. gas, Germantown, T.D. 1,060 ft. (old well deepened from 648 ft.).

SUMMARY OF COMPLETIONS

Ohio

	No.	Bbl.	Footage
Oil wells	12	159	8,758
Gas wells	15	*9.1	35,891
Dry holes	10	.....	21,107
Total	37	.....	65,856

Indiana

	No.	Bbl.	Footage
Oil wells: Fields	3	174	6,880
Dry holes: Wildcats	3	.....	6,755
Total	6	.....	13,635
Recompletions	1	.....	.....

Eastern Kentucky

	No.	Bbl.	Footage
Gas wells	2	*0.3	5,616

Western Kentucky

	No.	Bbl.	Footage
Oil wells	2	55	1,371
Dry holes	5	.....	3,592
Total	7	.....	4,963

*Million cu. ft.

Luburgh Co. 27 H. Swartz, Sec. 10, 80,000 cu. ft. gas, Germantown, T.D. 1,099 ft. (old well deepened from 693 ft.).

Morgan County

Marion Township: Texas Gas Utilities 14 Charles W. Newton, Sec. 23, dry, Niagara lime 3,144-4,200 ft., Clinton 4,468-74 ft., T.D. 4,515 ft.
Williams Bros. 2 Lawson Geddes, Sec. 12, dry, Fossil sand, T.D. 370 ft.
Washington Township: J. F. Graham et al 1 Marion Griffin, NW Sec. 11, about ½-bbl. pumper, Cow Run sand, T.D. 834 ft.

Muskingum County

Washington Township: Wittmer Co. 1 Charles S. Mock, Lot 9, N., 1,000,000 cu. ft. gas, Clinton, T.D. 3,997 ft.

Noble County

Enock Township: Felix Gerst 2 Solomon Hupp, Sec. 27, 2 bbl., shot, M-500-ft., T.D. 709 ft.
Jefferson Township: Hayes Bros. 1 A. Mallett heirs, Sec. 24, dry, lime sand, T.D. 1,075 ft.

Perry County

Clayton Township: Davis & Hazlett 1 Tague heirs, NW Sec. 15, dry, Clinton sand, T.D. 3,310 ft.
Reading Township: Preston Oil Co. 1 John A. Young, SW Sec. 4, 495,000 cu. ft. gas, Clinton sand, T.D. 2,800 ft.
Ohio Fuel 1 Homer Beard, Sec. 5, 370,000 cu. ft. gas, Berea, T.D. 993 ft.
Thorn Township: R. G. Davis et al 2 William Starkey et al, NW Sec. 13, about 20 bbl., casing collapsed when shot, Clinton sand, T.D. 2,709 ft.

Summit County

Richfield Township: Wiser Oil Co. 1 J. Bachan, Sec. 3, 260,000 cu. ft. gas, 12 bbl., shot, Oriskany, T.D. 2,078 ft.

Washington County

Liberty Township: Carpenter & Parks 1 M. E. Carter, Sec. 22, dry, Injun, T.D. 1,505 ft.

INDIANA

EVANSVILLE, Ind., Sept. 22.—An attempt to extend the Mount Carmel pool of Wabash County, Illinois, across the Wabash River into Indiana is being made at Princeton Mining Co. 1 Smith, NE NE SE 21-1s-12w, in western Gibson County. No. 1 Smith is located less than ¼ mile east of production on the Illinois bank. Surface casing has already been set at the test.

R. N. Sylvester 1 Potts, W½ SW SW 24-1n-10w, eastern Gibson County pool opener encountered McClosky saturation at 1,701-03 ft. and swabbed oil at the rate of 15 bbl. an hour last week. It is being put on pump. Meanwhile, Walter Miller was preparing to start work at 1 Kerr, NE SW NE 26-1n-10w, wildcat ⅝ mile southwest of 1 Potts.

Central States Oil 1 Herman Seifert, NW NW 30-6s-12w, in the Caborn area of Posey County, is reported to have pumped 230 bbl. of oil initially from the Mansfield sand, after shot. Previous to the shot it had pumped 70 bbl. daily. Central States 1 Louis Seifert, NW SW NW 30-6s-12w, ¼ mile south of 1 Herman Seifert, found the Mansfield sand dry and is reportedly testing a show of oil in the Palestine.

INDIANA DRILLING REPORT

Daviess County: D. L. Norris et al 1 Dorsan, W½ SE SE 35-2n-5w, Glen Dean 500 ft., S.D.
George Chumos 1 McCain, NW SE NW 28-2n-7w, 10-in. at 50 ft., drilling 600 ft.
Morbaig Dev. 1 O'Brien, W½ SE SE 8-2n-5w, location, first report.
Gibson County: R. N. Sylvester 1 Potts, W½ SW SW 24-1n-10w, pay 1,701-03 ft., flowed 100 bbl., natural, testing.
R. D. Brown, Inc., 1 Antell, NE SE 20-1s-11w, 12-in. 118 ft., drilling 125 ft.
R. D. Brown 1 Watts, SW SW NW 29-2s-12w, 7-in at 1,975 ft., drilling 1,990 ft.
La Porte County: J. E. Short 1 Stalkey, W½ NW SE NE 33-36n-1w, drilling 800 ft.
Newton County: Palmer Corp. 1 Henkle, SE SE SE 36-30n-9w, reset 6-in. 860 ft., cleaning out at 904 ft.
Posey County: R. Burns et al 1 Mumford Realty, SW NW NE 5-4s-13w, rig, first report.
E. L. Taxman et al 1 Luigs, SW NW SE 14-5s-12w, rig, first report.
Central States et al 1 Rueger, rig, first report.
Sloan et al 1 Seifert, N½ NW NW 30-6s-12w, sand 1,085-1,107 ft., 30-qt. shot, swabbed 7 bbl. an hr., testing.
Central States 1 Seifert, NW NW SW NW 30-6s-12w, sand 1,638-52 ft., 45-min. D.S. test, 70 ft. oil and 170 ft. mud, running casing.
Spencer County: Goldsmith et al 1 Smith, SE SE SW 6-7s-7w, S.D. 948 ft.
Sullivan County: T. H. Drake 1 Curry, NE NW 11-9n-8w, S.D. 1,800 ft.
P. Doran et al 1 Huff, S½ S½ S½ N½ 34-8n-10w, S.D. 800 ft.
E. L. Shoudy et al 1 Wible, S½ SE NE NW 13-8n-10w, location, first report.
E. M. Self 1 James Land, NE NE NE 36-7n-9w, S.D. 1,175 ft.
O. A. Thayer 1 Wickey, NE NW 7-7n-9w, drilling 1,400 ft.

INDIANA COMPLETIONS

Wildcats

Posey County: Morganstern Oil Corp. 1 Mentsger, SW NW NE 34-5s-14w, Glen Dean 2,395 ft., Barlow 2,580 ft., Cypress sand 2,636 ft., Renault 2,798 ft., Ste. Genevieve 2,890 ft., dry at 3,037 ft.
Spencer County: Goldsmith et al 1 Yeager, SW NE SE 6-7s-7w, dry at 1,118 ft.
Sullivan County: W. J. Reynolds 1 Hyde, SW NE NE 9-8n-10w, Ste. Genevieve 1,145 ft., Salem 1,523 ft., Warsaw 1,603 ft., New Albany 2,260 ft., Silurian 2,542 ft., dry at 2,600 ft.

Fields

East Calvin, Posey County: Continental 13 Kleiderer-A, NW SW SE 33-3s-14w, pumped 90 bbl. oil and 42 bbl. water, natural, Ste. Genevieve 2,818 ft., pay 2,883-84 ft. and 2,886-95 ft., T.D. 2,895 ft.
Griffin, Gibson County: Hall Edwards 39 Maier, SW SW SE 11-3s-14w, pumped 49 bbl., 20-qt. shot 2,543-50 ft., and 36-qt. shot 2,538-50 ft., T.D. 2,563 ft.
Veale, Daviess County: Hartman et al 1 Waite, SW NW SW 22-2n-7w, old well deepened from 1,540 ft., Devonian 2,517 ft., dry at 2,751 ft.
Vienna, Vanderburg County: K. R. Rixby et al 6 Glasec, S½ SW NW 31-5s-11w, pumped 35 bbl., 140-qt. shot 1,159-1,220 ft., T.D. 1,220 ft.

EASTERN KENTUCKY

ASHLAND, Ky., Sept. 22.—Operations showed a slight increase in eastern Kentucky this week with several locations reported but only two wells, both gas, were completed. Reports from various areas indicate a continuation of the current drilling in this part of the state with some new operations in the offing.

COMPLETIONS

Floyd County

Kentucky-West Virginia Gas Co. 5311 James Osborne, Osborne Branch, 215,000 cu. ft. gas, shale, R.P. 484 lb., T.D. 3,145 ft.
Kentucky-West Virginia Gas Co. 5340 J. M. Porter, Thompson's Fork of Souders Creek, 92,000 cu. ft. gas, shale, R.P. 272 lb., T.D. 2,471 ft.

DRILLING OPERATIONS

Johnson County

Columbian Fuel 1 Dan Davis, 2,245 ft., Corniferous.
Crate Rice and S. C. Allen J. L. Preston, Stove Branch, 1,835 ft., Corniferous.
S. C. Allen and Crate Rice 1 Lottie Rice, Barnetts Creek, 1,360 ft., black shale.

Knott County

Inland Gas Corp. operations:
225 Dan Martin, Big Branch, 1,856 ft., slate.
227 W. R. Smith, Left Fork of Troublesome Creek, 1,875 ft., Maxon.
Kentucky-West Virginia Gas Co. operations:
639 R. L. Conley, Jones Fork, 1,130 ft. slate and shells.
646 Clarence King, Isaac Fork, 430 ft., slate.

(Continued on Page 88)

Prospects for Guthrie City Well Remain Good

By ROBERT INGRAM

OIL men of the state continued to keep close watch on Harry A. Miller 1 Katschor, N½ NE SW 7-16-2w, a wildcat on the outskirts of the town of Guthrie which caused excitement 2 weeks ago when it found formations running high. Operators were drilling and coring ahead slowly in dolomite at 5,781 ft. early in the week looking for the second Wilcox sand which produces at the Guthrie pool, 8 miles northeast.

An electrical survey indicated the first Wilcox, or Marshall zone, to be from 5,678-5,712 ft. This sand is rather poorly defined in the Guthrie area and consists mostly of shaly sand. In a core at 5,745-56 ft., there was a 5-ft. recovery of green shale, dolomite and sand, with a good odor of gas.

Trading in leases in the area and on the townsite proper held a steady pace all through the week and an old fashioned drilling boom is expected if the well makes a producer. Biggest lease deal reported toward the end of the week was the purchase by H. F. Schweer of Oklahoma City of 39 lots of the Cimarron Valley Wesley Hospital, about 1½ miles north of the well, for $2,500 cash and a 1/32 over-riding interest.

At the Guthrie pool, Sunray Oil 6 Donoghue, SW NE SE 7-17-1w, drilled to 5,437 ft., swabbed down and was flowing by heads to complete. Work was starting at 7 Donoghue in NW SE SE of Section 7, and five other rigs were being kept busy in the pool.

SUMMARY OF COMPLETIONS

	No.	Bbl.	Footage
Oil wells: Apache	1	1,037	3,342
Cement	2	587	6,928
East Cromwell	3	1,786	10,350
West Earlsboro	1	408	4,385
West Hewitt	3	821	6,781
Oklahoma City	2	688	13,134
St. Louis and North	3	885	12,169
East Tecumseh	1	504	4,692
Other fields	18	1,540	46,957
Wildcats	2	1,430	6,136
Gas wells: Fields	3	*25	6,321
Wildcats	1	*7	4,002
Dry holes: East St. Louis	1	.....	4,280
Other fields	8	.....	15,436
Wildcats	5	.....	12,889
Total	54	....	157,802
Recompletions	3	1,071	.....

*Million cu. ft.

Second Well Nearing Completion At Depew Extension

Fidelity Royalty Co., Phillips Petroleum Co. et al were to test at the second well in the extension of the Depew field in Creek County at the 1 Annie Starr, SW SW SE 7-15n-8e, an east offset to the discovery well.

Casing was set at 3,755 ft. in Viola lime and crews were drilling at 3,767 ft. with cable tools at last report. The Wilcox sand is expected around 3,798 ft.

Tools were being moved to their 2 Edward Starr, NE SE SW 7-15n-8e, a north offset to the discovery well.

The operators' 1 Edward Starr, a mile south of the Depew townsite and a ¼ mile or so north of old Wilcox sand and Dutcher sand production, is doing 150 bbl. of oil a day through ⅛-in. choke on tubing. Gulf Oil is buying the crude.

Gas Show Found in Ada Wildcat

Blackwell Oil & Gas Co. and W. A. Delaney have earmarks of a gas field at their 1 H. K. Riddle, NW NW NE 9-3n-5e, southwest of Ada in Pontotoc County.

The Cromwell sand zone was topped at 858 ft., about 1,000 ft. higher than expected. In some 200 ft. of sand, the last 100 ft. showed for possible gas. Total depth is 1,542 ft. and 7-in. casing has been cemented at 1,060 ft. Pipe will be perforated to test the zone.

The operators have about 1,200 acres of leases around the well, while Riddle has about 500 acres.

Extension to Bebee Likely

Heenan & Coe, Inc., and Jack Lynch have earmarks of a ½-mile extension of the north trend of the old Bebee district in extreme southern Seminole County, at 1 Ragland, SE NW 25-5-5.

Hunton lime was had at 2,596 ft. with good saturation at 2,602 ft., total depth, and casing was set at 2,242 ft. After drilling plug crews were bailing down with some oil showing.

The operators have 300 acres around the well and plan development on a 40-acre basis.

Drilling Campaign Started At West Davenport Extension

Derricks were springing up at the new extension area of the West Davenport pool of Lincoln County as another good oiler was added to the pool.

Leader Oil Co. 1 Richie, NE NE 32-15-5, blew out after a 40-qt. shot from 3,530-47 ft. in the Prue sand and ran wild for several hours with an estimated 3,000,000 cu. ft. gas. It was showing for a 300-bbl. producer.

The company has staked location for 3 Richie, NE SE NE of Section 32, and the 4 Richie, in SE SE of Section 32. Its 2 Richie, SE NE NE of Section 32, had surface pipe set.

Dunnett Oil Co. 2 Lukenbill, in SE SE of Section 29, was drilling below 1,760 ft. Its 1 Smith, in SE SW SE of Section 29, had set surface casing.

Blackwell Oil & Gas Co. 1 Dollison, in NW NW of Section 33, was a new location, and Llano Oil Co. 1 Richie, in NW NE NE of Section 32, had set surface casing.

Bryan Petroleum Co. et al are ready to stake location in SW SW of Section 28.

Wildcat Staked In Elgin Sector

One location has been staked and another is contemplated in 14-4n-11w, 3 miles northwest of Elgin in Comanche County.

Texas Co. spotted the 1 Lyman Hayes in NE NE SW of 14-4n-11w, and the Denver Producing & Refining Co. was reported on a deal for a test on the Thomas Hayes tract ½ mile east.

Texaco now is drilling two wells in the general area: The 1 Gamble, SW NE SE 5-3n-10w, was below 1,960 ft., and the 1 School Land, SW SE NW 13-3n-10w, was drilling at 2,610 ft.

OKLAHOMA COMPLETIONS

Wildcats

Caddo County: Texas 2 Smith, SE NW 2-5-12w, flowed 1,410 bbl. oil and 961,000 cu. ft. gas, pay in Simpson sand 3,391-3,430 ft., well whipstocked at 2,018 ft., Sylvan 2,104 ft., Viola 2,344 ft., Dense 3,205 ft., 5-in. 3,432 ft., T.D. 3,433 ft., *discovery well of Apache pool.*

Lincoln County: Kemp 1 McLaury, SE SE SW 28-17-5, gaged 7,000,000 cu. ft. gas, old well abandoned July 10, 1941, at T.D. 4,002 ft. in second Wilcox 3,988 ft., operators went in to deepen, gas broke out from between 5-in. and 7-in. casings somewhere above Wilcox. *Opens new gas field.*

Love County: Batson-Sanders 1 Walden, NE NW NW 34-6s-2e, pumped 20 bbl., 40-gravity, Viola 2,180-2,575 ft., T.D. 2,703 ft. *Pool opener.*

Kiowa County: McWhirter & Hingerman 1-A Vandernack, NW NW NW 3-7-19w, dry, T.D. 2,350 ft., granite 2,330 ft.

Kelly Wells 1 Oester, SW NE NW 33-7-17w, dry, T.D. 1,102 ft., Wilcox 1,090 ft.

Noble County: Elm Oil 1 Hicks, SE SE SW 36-23-2w, dry, T.D. 5,271 ft., Wilcox 5,213 ft.

Pontotoc County: Hughes-Thoman 1-A Johnson, SW SW SE 26-4-5, dry, T.D. 1,022 ft., sand 952-78 ft.

Stephens County: E. R. Perkins 1 State, NE NE NW 16-3s-8w, dry, T.D. 3,144 ft.

Fields

Apache, Caddo County: Sinclair 1 Lewis, NE NE SW 2-5-12w, flowed 1,037 bbl., Simpson sand 3,305 ft., 7-in. 3,305 ft., T.D. 3,342 ft.

West Arno, Creek County: Wilcox 3 Stephney, NW NE NW 35-14-7, gaged 1,500,000 cu. ft. gas, Bartlesville 3,126 ft., 7-in. 3,114 ft., shot, T.D. 3,160 ft.

Cement, Caddo County: Ramsey 2-A Dows, SW NE NE 1-5-10w, pumped 28 bbl., Noble-Olson sand 3,300-17 ft., T.D. 3,481 ft.

Rocket Drilling 2 Walker, NW SE NE 1-5-10w, flowed 559 bbl., Noble-Olson sand 3,319 ft., pay 3,388-3,401 ft., T.D. 3,447 ft.

East Cromwell, Okfuskee County: Titus 3 Sands, SW SW SE 26-11-8, flowed 1,200 bbl., Cromwell 3,423 ft., 5-in. 3,423 ft., T.D. 3,447 ft.

Titus 4 Sands, SE SW SE 26-11-8, flowed 336 bbl., Cromwell 3,418 ft., T.D. 3,434 ft.

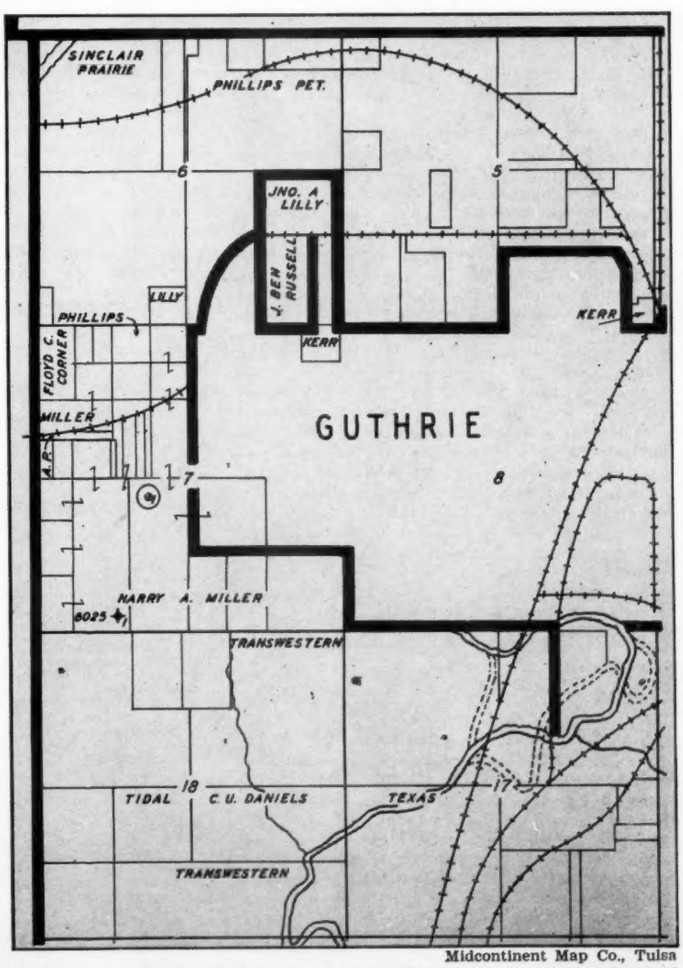
Foundation 3 Brown, NE NW NE 35-11-8, flowed 250 bbl., Cromwell 3,427 ft., 5-in. 3,421 ft., T.D. 3,439 ft.

Dill, Okfuskee County: Seran 7 Seran, NE NW NW 2-11-8, dry, T.D. 3,618 ft., Cromwell 3,560 ft.

Phillips 3 Replogle, NW SW NW 26-12-8, flowed 79 bbl., Cromwell 3,669 ft., 5-in. 3,669 ft., T.D. 3,686 ft.

West Earlsboro, Seminole County: Alma 1 White, NW

(Continued on Page 106)



Midcontinent Map Co., Tulsa

Trading in leases in the Guthrie townsite and outlying lands to the west has held a fast pace during the past 2 weeks as a result of the formation tops found by Harry A. Miller 1 Katschor, circled above in N½ NE SW 7-16-2w. An old dry hole is shown to the south

CALIFORNIA FIELD REPORT

Kern County Assured New Field at Dyer Creek

By L. P. STOCKMAN

LOS ANGELES, Calif., Sept. 22.—Shell Oil Co., Inc., has undoubtedly found a new field in the Dyer Creek district of Kern County although it may be another several days before the discovery well is completed. This new field, which is located about 5 miles northwest of the Mount Poso field, is expected to be somewhat similar to other shallow fields along the eastern rim of the San Joaquin Valley. Shell's discovery well is 56-X-11 Smith in 11-26s-27e and is the third wildcat this company has drilled in the immediate neighborhood. Late this week 56-X-11 Smith pumped for a few hours at a daily rate of 58 bbl. before sanding up. It is at present being cleaned out and should be back on the beam again within a comparatively short time. It is interesting to note that Superior Oil Co. drilled a wildcat in the northwest corner of the same section on which Shell's potential discovery well is located. Superior found the Vedder zone at 2,485 ft., the Walker at 2,965 ft., and granite basement at 3,414 ft. This wildcat was abandoned at 3,446 ft. in the basement. Shell's first wildcat in the Dyer Creek area was 77-11 Smith in the same section and it was abandoned as unproductive at 2,424 ft. The company's second try was 46-11 Smith in the same section but the Vedder zone was found barren at 2,443 ft. and the hole was accordingly abandoned. The company found enough to justify further exploration, however, and the present wildcat which may open up a new productive area was drilled. The Vedder zone, which the company is testing, is the major productive interval in the eastern rim of the San Joaquin Valley and is of Miocene age. It is also highly productive at deeper depths in the Rio Bravo and Greeley fields in the center of the basin. In 56-X-11 Smith, Shell only has a limited penetration but since this zone usually has high porosities and permeabilities the amount of Vedder sand found may be ample to yield commercial production. The most significant thing in connection with this discovery is the possibility that additional drilling may prove up a greater amount of oil sand in the area. Several shallow fields located along the eastern rim of the San Joaquin Valley in Kern County have been especially profitable because of low drilling costs, favorable quality of oil, and productivity of wells on the beam. This crude has high lubricating-oil content.

SUMMARY OF COMPLETIONS

	No.	Bbl.	Footage
Oil wells: San Joaquin Valley	6	2,993	18,624
Coastal district	4	1,899	19,332
Los Angeles Basin	8	3,273	39,011
Gas wells: Coles Levee	1	.....	5,300
Petaluma wildcat area	1	.....	1,215
Dry holes: Wildcats	2	.....	23,523
Total	22	.....	107,005

Extensions Practically Link Rio Bravo and Greeley Fields

The Rio Bravo field, discovered by Union Oil Co., and the Greeley field, discovered by Standard Oil Co., have been practically joined as a result of extension work in the northern end of the Greeley field by Superior Oil Co., General Petroleum Corp., and Standard Oil Co. Final data as a result of additional drilling and correlation work between wells of the two areas will probably indicate the existence of a small saddle between the two fields. The Rio Bravo and Vedder zones are productive in both fields and completion depths are very comparable as are also the gravity of oil and gas-oil ratios. This development is especially interesting because the two discovery wells were located several miles apart and there was nothing to indicate a possible affinity between the two fields. This is especially noticeable because it was not until some time after discovery of the Greeley field that General Petroleum Corp. started extension work in the northern part of the field that has resulted in the joining of the two productive areas. Greeley differs in one respect from Rio Bravo in that in the former field the Stevens zone was found productive whereas at Rio Bravo this zone was barren. Subsequently it was found that the Stevens zone which has been found so highly productive in the Ten Section field by Shell Oil Co., Inc., did not contain the reserve expected at Greeley and indicated that it would be questionable whether many of the Stevens zone wells at Greeley would ever pay out. In the western part of the Rio Bravo field, Union Oil Co. is drilling ahead in 21 Pacific States in 33-28s-25e at 12,440 ft. This well failed to find very much oil sand in the Rio Bravo and Vedder zones and is being carried down as a deep test. The Eocene is expected around 14,000 ft. This well definitely determines the western limits of production in the Rio Bravo field.

Wildcat Near Taft Shows Promise

North American Oil Consolidated, which is drilling a wildcat in the hills west of Taft in Kern County, stands a good chance to open a new productive field at this point. At present there does not appear to be enough oil sand to assure discovery of a new field but the amount of oil sand appears to be increasing in porosity and permeability with depth. The oil sand being found in this well is contained in shale bodies and if the company secures enough oil sand in one body it will be able to secure commercial production. This wildcat looks exceptionally good on the basis of work to date and operators who have examined the cores regard prospects as very promising. In the Shafter region of Kern County in the San Joaquin Valley, Continental Oil Co. has a firm grip on a wildcat's tail and cannot let go. The performance of the well in question, flowing about 400 bbl. of fluid cutting 75 per cent water and the balance oil and mud, is too good to pass up and not particularly encouraging. Another well will probably be drilled.

AVERAGE DAILY PRODUCTION

	Sept. 20	Sept. 13
Wilmington	85,825	87,125
Midway-Sunset	47,450	53,925
Coalinga	45,750	46,125
Kettleman North Dome	39,925	38,850
Long Beach	39,050	40,075
Ventura Avenue	38,175	37,225
Huntington Beach	33,200	32,750
Santa Fe Springs	23,600	23,125
Dominguez	22,050	23,325
Santa Maria Valley	19,250	17,550

SAN JOAQUIN VALLEY COMPLETIONS

Burrel wildcat district, Fresno County: General Pet. 1 Burrel, 2-17s-18e, dry, T.D. 9,400 ft., Santa Margarita 4,855 ft., Kreyenhagen 7,512 ft., bottomed in Cretaceous, formation test 6,140-6,607 ft. recovered salt water.

Buttonwillow wildcat district, Kern County: Superior 13 Kern County Land, 18-29s-25e, dry, T.D. 14,123 ft., formation tests 10,075-10,110 ft. and 10,075-10,156 ft. recovered salt water.

Coalinga Southeast, Fresno County: R. S. Lytle 53-18-F, 18-20s-16e, flowed 1,834 bbl., 31.6-gravity, 1 per cent cut, 995,000 cu. ft. gas, 22/64-in. bean, pressures 1,075/1,150 lb., T.D. 7,882 ft., 100-mesh perf. 7,304-7,551 ft., 7,588-7,882 ft., Temblor 5,157 ft. Kreyenhagen 6,150 ft., green sand 7,268 ft., completed in Gatchell oil sand of Eocene age 7,302-7,868 ft., bottomed in Gatchell silt.

Coles Levee, Kern County: Richfield 1-4-G Kern County Land, 4-31s-25e, flowed 26,500,000 cu. ft. gas, 7/8-in. bean, pressures 1,000/1,000 lb., T.D. 5,300 ft., completed in dry-gas zone overlying productive Stevens zone of Miocene age.

Fruitvale, Kern County: Western Gulf 36-B Kern County Land, 14-29s-27e, flowed 156 bbl., 21.3-gravity, 0.3 per cent cut, ½-in. bean, pressures 100/350 lb., T.D. 3,155 ft., 120-mesh perf. 3,111-53 ft., recompleted in Martin oil zone 3,112-55 ft., base of Etchegoin 3,002 ft.

Western Gulf 5 Parker, 27-29s-27e, flowed 140 bbl., 17.9-gravity, 5 per cent cut, 30/64-in. bean, pressures 50/350 lb., T.D. 4,324 ft., 120-mesh perf. 3,621-3,794 ft., 3,840-3,970 ft., 4,047-4,169 ft., 4,170-4,320 ft., completed in Fairhaven oil sand, base Etchegoin 3,374 ft.

Kern Front, Kern County: Republic Pet. 17 Strassburger, 24-28s-27e, pumped 102 bbl., 14.2-gravity, 18 per cent cut, T.D. 1,900 ft., 160-mesh perf. 1,722-1,898 ft., completed in Kern Front zone of Pliocene age.

Midway-Sunset, Kern County: Richfield 9 Southwestern, 2-31s-22e, pumped 162 bbl., 16.4-gravity, 1.4 per cent cut, T.D. 1,225 ft., gravel-packed perf. 861-1,221 ft., completed in upper zone of Etchegoin age.

Mount Poso, Kern County: Ring Oil Co. 8 Bohen, 32-26s-28e, pumped 375 bbl., 15.1-gravity, 3 per cent cut, T.D. 1,653 ft., perf. 1,628-53 ft., completed in Vedder zone of Miocene age 1,632-53 ft.

Ring Oil Co. 9 Bohen, 32-26s-28e, pumped 380 bbl., 15.1-gravity, 3 per cent cut, T.D. 1,640 ft., perf. 1,615-40 ft., completed in Vedder zone of Miocene age 1,622-40 ft.

Petaluma, Sonoma County: Trico O. & G. Co. 1 Miller, 30-5n-6w, flowed 3,037,000 cu. ft. gas, ⅝-in. bean, flow pressure 400 lb., T.D. 1,215 ft., 80-mesh perf. 1,183-1,214 ft., top gas sand 1,183 ft., B.t.u. value 1,002; S.I. pressures 550/550 lb.

SAN JOAQUIN VALLEY OUTPOSTS

Belridge, Kern County: Belridge Oil Co. 55-26 fee, 26-27s-20e, drilling 10,174 ft. in hard sand, top Eocene 9,545 ft., is now below top of productive Wagonwheel zone of Eocene age, elev. 658 ft.

Buena Vista Hills, Kern County: Honolulu 25-P fee, 10-32s-24e, T.D. 14,622 ft., P.B. 11,059 ft., recovered stuck drill pipe to 12,880 ft., cemented 7-in. blank liner 8,016 ft., test 5,744-6,611 ft., 6,897-7,618 ft., 8,832-10,029 ft., flowed gas and salt water, elev. 916 ft.

Canal, Kern County: Shell 44-14-A Kern County Land, 14-30s-25e, drilling in oil sand 9,483 ft., will be first Vedder zone test in field, elev. 325 ft.

Elk Hills, Kern County: Standard 42-31-S fee, 31-30s-24e, T.D. 8,029 ft. in shale, lost drill pipe, redrilled to 5,935 ft., trying to produce, elev. 1,122 ft.

Standard 62-31-S fee, 31-30s-24e, rigging up and preparing to spud.

Standard 45-19-S fee, 19-30s-24e, drilling 10,425 ft. in sand and shale, elev. 707 ft.

Standard 24-19-R fee, 19-30s-23e, rigging up and preparing to spud.

Standard 76-33-S fee, 33-30s-24e, drilling 3,271 ft. in sand, elev. 996 ft.

Greeley, South, Kern County: A. N. Macrate 1 Haberfeld, 32-29s-26e, drilling 9,461 ft. in gray sand and shale, top Stevens zone of Miocene age 8,090 ft., elev. 338 ft.

Kern Front, Kern County: Richfield 1 Kraemer, 34-28s-27e, location staked.

Kettleman North Dome, Kings County: Standard 1-1-U fee, 1-23s-18e, drilling 12,884 ft. in hard gray sand showing considerable gas, redrilled to 11,625 ft., reaming, elev. 693 ft.

Midway-Sunset, Kern County: North Amer. Oil Cons'd. 1-28 W.P., 28-32s-23e, T.D. 9,274 ft. in oil sand and shale with streaks of tight impervious sand and siltstone, elev. 1,560 ft.

Mountain View, Kern County: Richfield 1 M.V., 18-30s-28e, drilling and spot coring 6,170 ft. in sand, elev. 375 ft.

Hogan Pet. Co. 1-A Banrenburg, 32-30s-29e, rigging up, will be deep test.

Paloma, Kern County: Union 81 Morgan, 14-32s-26e drilling 11,100 ft. in sand of low permeability, elev. 306 ft.

Western Gulf 12-7 Symons, 7-32s-27e, drilling 8,553 ft. in sand, is most easterly well in field.

Raisin City, Fresno County: Shell 28-18 Properties, Inc., 18-15s-18e, T.D. 5,225 ft., P.B. 5,064 ft., cemented 7-in. casing 5,022 ft., elev. 201 ft.

Bandini Pet. Co. 82-23 S.P., 23-15s-17e, building rig.

Seaboard Oil Corp. 88-13 S.T.U., 13-15s-17e, drilling 945 ft. in sand.

Rio Bravo, Kern County: Union 21-33 Pacific States, 33-28s-26e, drilling 12,230 ft. in sand below Vedder zone of Miocene age, will go to Eocene if possible, elev. 330 ft.

Union Avenue, Kern County: Hancock Oil Co. 2 Roberts, 6-30s-28e, T.D. 5,000 ft. in sand and shale, P.B. 2,450 ft., redrilled 2,550 ft., plugging again to set whipstock and redrill again.

SAN JOAQUIN VALLEY WILDCATS

Altamont district, Alameda County: Shell 1 Nissen, 7-2s-3e, drilling 4,191 ft. in sand and shale, elev. 1,023 ft.

Belridge district, Kern County: Sec. 27 Oil Co. 1 Aslin 27-28s-22e, drilling 1,298 ft. in shale.

Chowchilla district, Madera County: Shell 74-9 Chowchilla Farms, 9-11s-14w, drilling 7,290 ft. in sand, no showings to date.

Delhi district, Yolo County: Amerada 1 Finance Constr. Co., 4-6n-3e, T.D. 7,244 ft. in sandy shale will P.B. and test upper showings, elev. 8 ft.

Delano district, Kern County: Shell 52-21 Bell, 21-25s-26e, derrick built, hauling in drilling equipment.

Devils Den district, Kern County: R. S. Miesse 1 Jacquelyn, 26-25s-18e, T.D. 450 ft. in oil sand and shale, cleaning out and rigging to pump.

Dyer Creek district, Kern County: Shell 56-X-11 Smith, 11-26s-27e, drilling 2,361 ft. in sand, 5½-in. casing cemented 2,325 ft., above Vedder zone of Miocene age, rig to pump.

Helm district, Fresno County: Amerada 31-34 Clover, 34-16s-17e, drilling 8,934 ft. in sand and hard Kreyenhagen shale, elev. 203 ft.

Jacalitos district, Fresno County: Wilshire-Annex 33-26-E, drilling 5,360 ft. in gray sand and shale, Temblor 3,875 ft., Kreyenhagen 4,682 ft., elev. 941 ft.

Kerman district, Fresno County: S. B. Herndon 1 Bottoms, 3-14s-16e, drilling water well and grading location for wildcat, elev. 187 ft.

McDonald anticline district, Kern County: Texas 1 Anderson, 19-28s-20e, drilling 1,479 ft. in sand and shale, elev. 1,080 ft.

Panoche district, Fresno County: Richfield 1 Stone-Bragg, 33-13s-12e, drilling 5,571 ft. in sand and shale, elev. 358 ft.

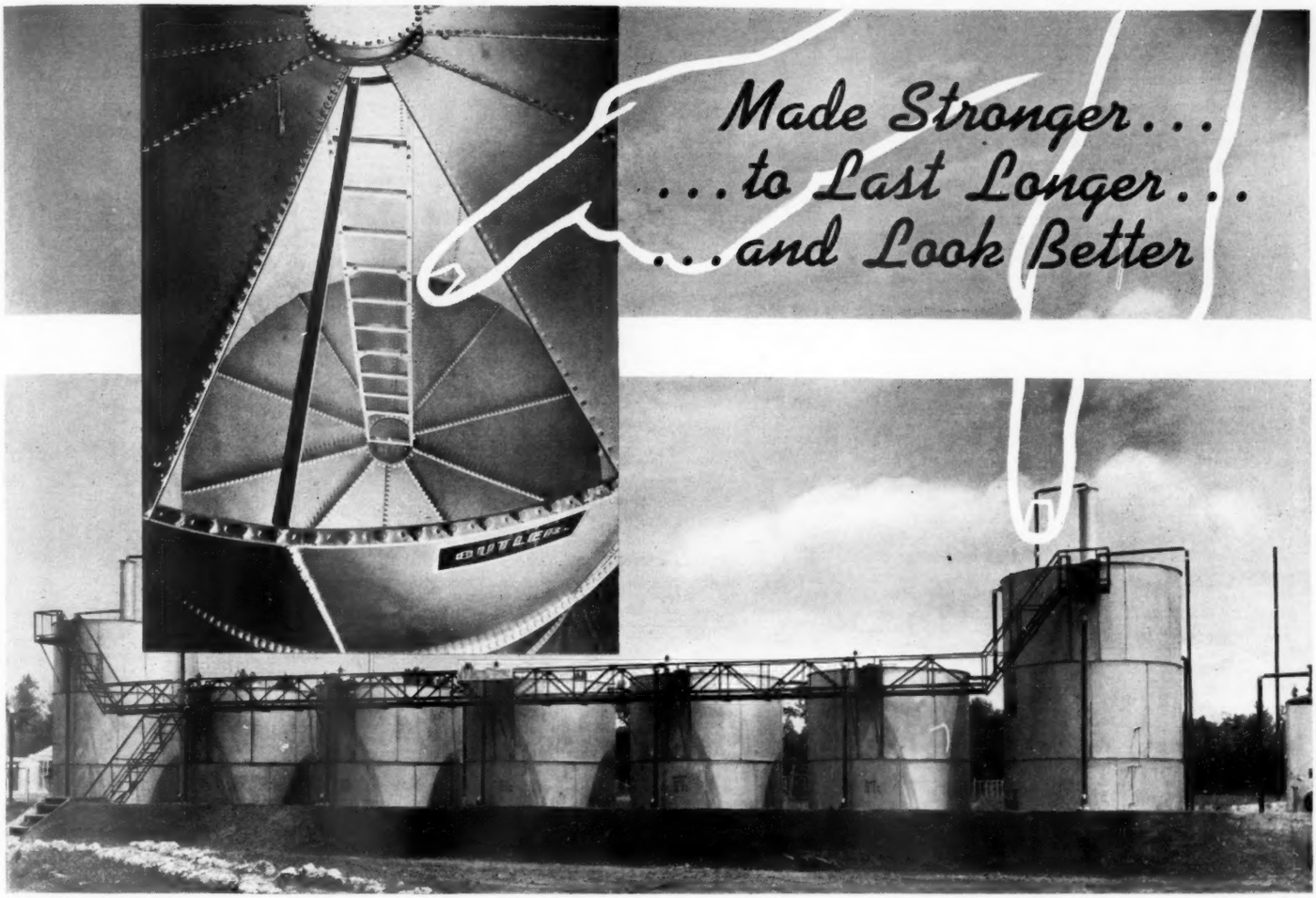
Rio Vista district, Solano County: Standard 1 Suisun Comm., 36-4n-2w, drilling 5,150 ft. in sand and shale, objective is Cretaceous gas zone, formation tests: 2,755-2,830 ft., no blow; 5,023-36 ft., recovered salt water.

Standard 1 Bradford, 20-3n-3e, drilling 4,294 ft. in sand, elev. 5 ft.

Standard 1 Productive Prop., 23-3n-3e, drilling 4,070 ft. in sandy shale, elev. 5 ft.

Rumsey Hills district, Yolo County: Standard 1-1 Tippetts, 15-12n-3w, drilling in sand 2,040 ft., repairing equipment, elev. 1,480 ft.

Shafter district, Kern County: Continental 2-G Kern County Land, 35-27s-24e, T.D. 12,935 ft. in gray sand of undetermined age, due to poor core re-



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covery, may be either Rio Bravo or Vedder of Miocene age, swabbed and flowed 250 bbl. oil and 400 bbl. water, cleaned out to 12,850 ft., gun perf. 12,803-06 ft., swabbing oil and water.
General Pet. 51-15 S.P., 15-28s-24e, rigging up.
Shale Hills district, Kern County: H. C. Morton 1 Core Hole, 30-26s-19e, drilling 2,205 ft. in shale and oil sand.

Development in Los Angeles Basin Declines Steadily

Development work in Los Angeles Basin fields has shown a substantial decline during the past several months and at present there is little drilling under way with the exception of Inglewood and Wilmington with a few wells under way in the Long Beach area. The situation at Inglewood reflects the desire of operators to keep drilling as low as possible. Due to this condition development work to date has been limited to the northwestern end of the Inglewood structure. This week Hogan Petroleum Co. successfully completed another excellent flowing well on the Machado property and Tide Water Associated Oil Co. should have its 70 Vickers tanking oil within the next week or 10 days. Shortly thereafter Jergins Oil Co. should complete its 2 Howard, and Standard Oil Co. should finish two new wells now drilling below 6,250 ft. R. R. Bush Oil Co., which discovered and proved up Miocene production in the Inglewood field, is having considerable trouble with work in the northern part of the field and at present appears to have two dry holes on its hands. The company's 1 Merchants has been suspended at 8,872 ft. because of inability to produce and 1 Smith is being placed on the idle list at 8,673 ft. This well was plugged back to 8,170 ft. and casing perforated at 7,225-7,300 ft. but showed gas, salt water and a little oil.

Drilling operations in the Wilmington field have been more or less of a routine nature with operators drilling up inside locations so that all three zones. Ranger, upper Terminal, and lower Terminal, will be developed on a regular basis. Very little attention has been paid to the so-called tar zone in the Long Beach Harbor section of the Wilmington field but this horizon will undoubtedly be developed along conservative lines in the near future. This zone has good production possibilities and the few wells completed to date have shown fairly large production. The Tar zone is of Pliocene age and all zones below this horizon are in rocks of Miocene age. There are a number of operators pecking around the edge of the Wilmington field with the result that this field and Torrance are almost continuous at least as far as the Ranger zone is concerned.

LOS ANGELES BASIN COMPLETIONS

Dominguez, Los Angeles County: Shell 119 Reyes, 34-3s-13w, flowed gas lift 1,156 bbl., 28.4-gravity. 4.4 per cent cut, 640,000 cu. ft. net formation gas, T.D. 5,360 ft., perf. 4,616-37 ft., 4,651-4,796 ft., 4,816-61 ft., 4,881-4,936 ft., 4,956-81 ft., 5,026-5,111 ft., 5,146-99 ft., 5,214-45 ft., 5,271-5,302 ft., 5,322-53 ft., completed in fourth Callender zone of Pliocene age.
Union 17 Austin, 29-3s-13w, flowed compression 285 bbl., 32-gravity, 9 per cent cut, 30,000 cu. ft. net formation gas, 1 1/4-in. bean, pressure 250/650 lb., T.D. 7,185 ft., perf. 7,114-85 ft., completed in seventh Callender zone of Miocene age.
Huntington Beach, Orange County: Signal O. & G. Co. 32 Bolsa, 33-5s-11w, flowed 538 bbl., 29.1-gravity, 2 per cent cut, 1-in. bean, pressures 250/500 lb., T.D. 3,420 ft., perf. 3.198-3,420 ft., completed in second Bolsa zone of Pliocene age.
Inglewood, Los Angeles County: Hogan Pet. Co. 2-A Machado, 7-2s-14w, flowed 760 bbl., 30.2-gravity, 2 per cent cut, 750,000 cu. ft. gas, 8/64-in. bean, pressures 750/1,250 lb., T.D. 8,175 ft., 120-mesh perf. 7,924-8,174 ft., completed in Sentous zone of Miocene age.
Seal Beach, Orange County: Continental Oil Co. 6 Bixby, 3-5s-12w, flowed 184 bbl., 27.8-gravity, 1.1 per cent cut, 200,000 cu. ft. gas, 31/64-in. bean, pressures 100/375 lb., T.D. 5,187 ft., P.B. 5,125 ft., perf. 5,041-5,125 ft., original depth 5,836 ft., set whipstock 1,415 ft. and redrilled to 5,187 ft. and then plugged to 5,125 ft., recompleted in Bixby zone.
Torrance, Los Angeles County: L. A. Basin Pet. Co. 2 Phillips, 30-4s-13w, flowed 220 bbl., 17.9-gravity, 5 per cent cut, 3/8-in. bean, pressures 100/150 lb., T.D. 3,755 ft., perf. 3,180-3,240 ft., 3,305-3,755 ft., completed in equivalent of Ranger zone of Miocene age.
Vesta Pet. Co. 2 Palos Verdes, 31-4s-13w, pumped 80 bbl., 17.9-gravity, 10 per cent cut, T.D. 3,715 ft., perf. 3,103-58 ft., 3,203-3,308 ft., 3,518-3,713 ft., completed in equivalent of Ranger zone of Miocene age.
Wilmington, Los Angeles County: Mitchell & Son 2 Nelson, 32-4s-13w, pumped 115 bbl., 16.1-gravity, 5 per cent cut, T.D. 3,748 ft., perf. 3,027-3,157 ft., 3,186-3,275 ft., 3,495-3,685 ft., 3,715-41 ft., completed in Ranger zone of Miocene age.
Union Pacific R. R. 196 fee, 9-5s-13w, flowed 119 bbl., 17.8-gravity, 2 per cent cut, 3/4-in. bean, pressures 60/100 lb., T.D. 3,653 ft., perf. 2,929-3,004 ft., 3,018-67 ft., 3,087-3,170 ft., 3,435-3,560 ft., 3,599-3,646 ft., completed in Ranger zone of Miocene age.

LOS ANGELES BASIN OUTPOSTS OR DEEP TESTS

Dominguez, Los Angeles County: Hileford Associates 1 Developers, 29-3s-13w, T.D. 7,301 ft. in oil sand, tested wet twice, repairing liner.
Clareborn Oil Co. 1 Hiles, 29-3s-13w, drilling 7,264 ft. in sand and shale, washed perfs. with oil, no kick.
Decker and associates 1 Frome, 29-3s-13w, drilling 6,592 ft. in sand.
Hiles-Crawford and associates 1 Willis, 29-3s-13w, tested wet 3 times at 7,253 ft., plugged to 7,233 ft., installed compressor, would not kick over, may redrill, elev. 35 ft.
Inglewood, Los Angeles County: R. R. Bush Oil Co. 1 Smith, 7-2s-14w, T.D. 8,673 ft. in sand and shale, P.B. 8,170 ft., Nodular shale 8,100 ft., located water below 8,400 ft., gun perf. 7,225-7,300 ft., swabbed water, elev. 185 ft.
Federal Oil Co. 3 Smith, 7-2s-14w, drilling in sand and shale 7,890 ft.
Hogan Pet. Co. 3-A Machado, 7-2s-14w, rigging up and preparing to spud.
Jergins Oil Co. 2 Howard, 7-2s-14w, drilling 6,272 ft. in sand and shale.
Standard 2 Vickers, 7-2s-14w, drilling 6,181 ft. in sand and shale.
Standard 2-13 Vickers, 7-2s-14w, drilling in sand 6,210 ft.
Texas 8 Smith, 7-2s-14w, drilling 8,305 ft. in oil sand, top Nodular 7,840 ft., flowed 75 bbl. by heads, cutting 5 per cent, elev. 242 ft.
Associated 70 Vickers, 7-2s-14w, drilling 7,765 ft. in sand and shale, cemented 7-in. casing 7,765 ft., elev. 229 ft.
Associated 71 Vickers, 7-2s-14w, location.
Associated 72 Vickers, 7-2s-14w, grading location.
Potrero, Los Angeles County: Associated 5 Cypress, 34-2s-14w, rigging up and preparing to spud.
Rosecrans, Los Angeles County: R. S. Lytle 2 Anderson, 1-3s-14w, drilling 9,090 ft. in sand; 13 3/8-in. surface pipe froze and cemented 998 ft., top Miocene 8,200 ft., small oil showing at 8,565 ft., elev. 233 ft.

LOS ANGELES BASIN WILDCATS

Chino district, San Bernardino County: Prado Pet. Corp. 1 Lamp, 31-2s-7w, T.D. 1,730 ft. in sand, P.B. 1,500 ft., elev. 560 ft.
La Mirada district, Orange County: Texas 1-A McNallu, 22-3s-10w, drilling 7,080 ft. in sand, elev. 112 ft.
Manhattan Beach district, Los Angeles County: Dominguez Ext. Oil Co. 1 Sunset, 19-3s-14w, redrilled 5,926 ft., streaks oil sand, P.B. 5,877 ft., fishing tubing, elev. 135 ft.
Mines district, Los Angeles County: Six Companies 1 Poso Seco, 2-3s-15w, location graded, is joint test by Standard, Union, Texas, Associated, Richfield, and Shell which bought acreage in fee a few years ago.
Palos Verdes district, Los Angeles County: Newton Dev. Co. 1 P.V., 13-5s-15w, drilling 3,071 ft. in hard sand and shale with cable tools.
Puente district, Orange County: Sunset Oil Co. 1 Baldwin, 11-2s-11w, drilling 4,320 ft. in hard gray sand and black shale with streaks of conglomerate, top Kraemer shale 3,888 ft.
Rio Hondo district, Los Angeles County: Potrero Oil Co. 1 Newman, 32-1s-11w, rig, hauled in some drilling equipment, located 1 mi. N of eastern tip of Montebello field.
Seal Beach, Orange County: South Basin Oil Co. 1 Heller, 6-5s-11w, rigging up and preparing to spud, is joint test of South Basin Oil Co., Johnston Drilling Co., and Allied Pet. Co.
White's Point district, Los Angeles County: Surety Holding Co. 1 Sepulveda, 22-5s-14w, T.D. 967 ft. in sand and shale, elev. 156 ft.
Whittier district, Los Angeles County: Continental Oil Co. 1 Turnbull, 13-2s-11w, drilling 3,298 ft. in sand and shale, formation test, packer 2,341 ft. recovered fresh water, formation test 2,884-3,068 ft. recovered 12 stands mud, 4 stands mud and water, and 43 stands fresh water, elev. 535 ft.
Los Nietos Valley Oil Co. 1 Los Nietos, 29-2s-11w, rig.

Santa Maria Valley Field Extended to West

Union Oil Co. extended the productive limits of the Santa Maria Valley field of Santa Barbara County 660 ft. west this week by completing 3-2 Moretti in 14-10n-35w pumping in excess of 1,300 bbl. of 16.5-gravity oil per day from 5,493 ft. Completion of this outpost presents a number of interesting possibilities not the least of which is that production may be found another several thousand feet to the west. That Union believes this more than a good possibility is evidenced by the fact that the company holds considerable acreage under lease. Union is producing from about 300 ft. of formation in the new Moretti outpost and consequently completion of this well proves up another several locations although the thickness of productive formation may thin out somewhat. The eastern limits of the field have been fairly well defined as Union Oil Co. is abandoning 1 Boyd in 32-10n-33w as a duster at 4,519 ft. This well found considerable faulting and thus the eastern limits are located west of this outpost which is east of Rock Island Oil Co.'s 1 Kemp which appears good for about 200 bbl. daily on the beam from 4,006 ft. Operators are at present watching the outcome of drilling on 1 Gilmore which is being drilled by A. E. Bell in 23-9n-33w in the Cat Canyon field of Santa Barbara County because a completion would greatly extend the productive limits of Miocene production. This well appeared for a time to be running about 300 ft. higher structurally than wells in the Los Flores section of the district but with depth it now appears to be running somewhat lower. The exact status of this outpost will not be determined for another several hundred feet and for this reason the well must be regarded as showing considerable promise. Barnsdall Oil Co. has gone back into the Elwood field after a suspension of work for several years and has completed a good Sespe zone well. The company is going back into 88-11 State, a tide land well that was suspended several weeks ago at 4,257 ft. and will resume work in the hope of developing good production.

Several Newhall-Castaic Wells Near Completion

Wells in the Newhall-Castaic region are approaching the time when several completions should be chalked up in the Del Valle and other fields in that area. In the Videgain area located at the west end of the Del Valle field, Ohio Oil Co. cored top of the first Modelo zone of Miocene age at 6,113 ft. but will probably drill ahead after landing a string of 7-in. casing. Bankline Oil Co. in this area is down 6,997 ft. in a shale body and failed to find any sand bodies in the third Modelo which is rather surprising. This operator will also core ahead after landing casing over the first Modelo zone. Standard Oil Co. has found the first Modelo zone at 5,718 ft. and has landed 8 5/8-in. casing at 5,700 ft. On a formation test this well flowed at the rate of 4,000,000 cu. ft. of gas along with some oil and water. In the east end of the Del Valle anticline, R. E. Havenstrite is in the oil sand in 8 Lincoln and has landed a string of 7-in. casing preparatory to completing. Very little is known about structural conditions in the west end of the Del Valle anticline as the formation in between is rather well broken up and in some cases standing on end. It remains to be seen whether there is a fault between the two productive areas. Aztec Oil Co., which is drilling a Miocene test on the Pico anticline, has reached a depth of 5,761 ft. and while several good gas showings have been logged no solid oil sand body has yet been found.

COASTAL DISTRICT COMPLETIONS

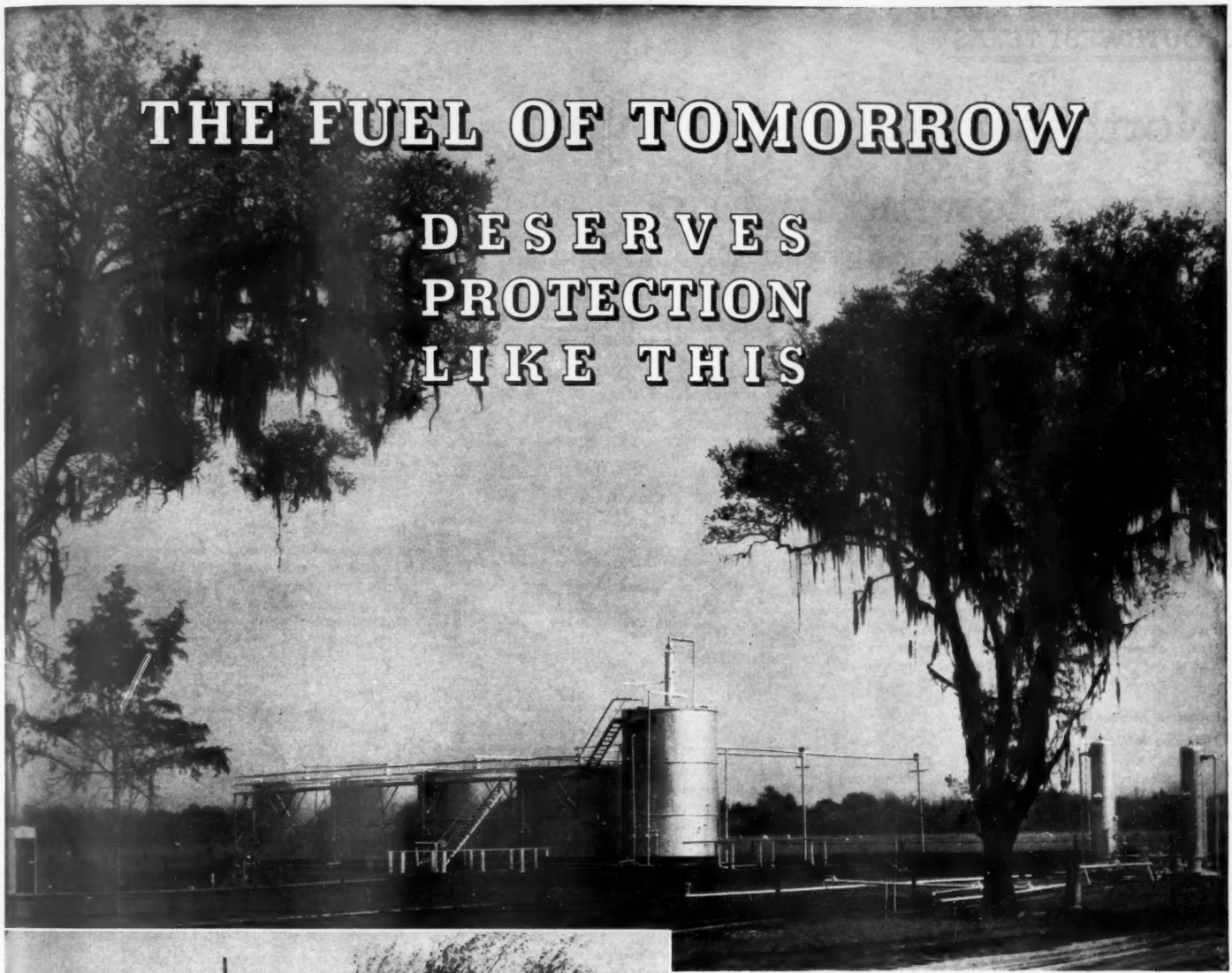
Santa Maria Valley, Santa Barbara County: George F. Getty 7 Vicente, 27-10n-34w, pumped 55 bbl., 14.2-gravity, 1.5 per cent cut, T.D. 4,671 ft., perf. 4,288-4,665 ft., completed in Monterey zone of Miocene age.
Lomi Oil Corp. 1 Fairfield, 28-10n-34w, pumped 350 bbl., 15.1-gravity, 4 per cent cut, T.D. 5,281 ft., perf. 4,904-5,269 ft., completed in Monterey zone of Miocene age.
Rock Island Oil Co. 1 Kemp, 31-10n-33w, pumped 150 bbl., 13.2-gravity, 20 per cent cut, T.D. 4,584 ft., P.B. 4,006 ft., perf. 3,680-3,950 ft., completed in Monterey 3,680-3,950 ft., chert 4,390 ft. was barren.
Union 3-2 Moretti, 14-10n-35w, pumped 1,344 bbl., 16.6-gravity, 3 per cent cut, T.D. 5,493 ft., P.B. 5,374 ft., perf. 5,034-5,372 ft., completed in Monterey, top Franciscan basement 5,479 ft.; this well is one location west of nearest production.

COASTAL DISTRICT WILDCATS

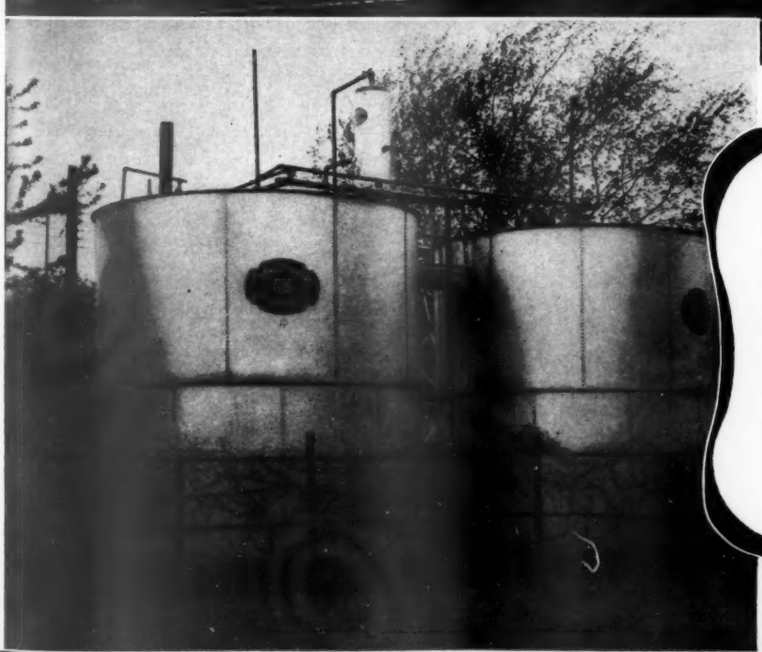
Also Canyon district, Los Angeles County: Associated 1 Mission, 26-3n-16w, drilling 4,220 ft. in sand, elev. 2,709 ft.
Castaic district, Los Angeles County: Texas 1 Newhall Land & Farming, 11-4s-17w, building rig.
Cat Canyon district, Santa Barbara County: A. E. Bell 1 Gilmore, 23-9n-33w, drilling 5,475 ft. in oil sand and chert.
Standard 3 Los Flores, 27-9n-33w, drilling in sand and sticky shale 2,362 ft., elev. 1,065 ft.
Union 12 Bell, 27-9n-33w, rig, is offset to Standard's 2 Los Flores.
Union 13 Bell, 27-9n-33w, building rig.
Camulos ranch, Ventura County: Western Gulf 1 Rubel, 22-4n-18w, drilling in sand and shale 3,591 ft., elev. 752 ft.
Chatsworth district, Los Angeles County: Imperial Oil Co. 1 Chatsworth, 25-2n-17w, rig.
Del Valle district, Los Angeles County: Bankline Oil Co. 1 Videgain, 17-4n-17w, drilling 7,000 ft. in shale and oil sand, top Miocene 5,856 ft., elev. 1,719 ft.
Standard 1 Sepulveda, 17-4n-17w, drilling 5,850 ft. in oil sand, elev. 1,359 ft.
Ohio 1 Vasquez, 17-4n-17w, drilling in oil sand and shale 6,195 ft., elev. 1,718 ft.
Elwood district, Santa Barbara County: Barnsdall-Richfield 88-11 State, tideland, T.D. 4,257 ft., preparing to resume work, elev. 21 ft.
Loma Grande district, Monterey County: Loma Grande Oil Co. 1 Corey, 23-24s-10e, T.D. 3,790 ft. in shale, fishing drill pipe, elev. 1,500 ft.
Newhall district, Los Angeles County: Aztec Oil Co. 1 Sanborn, 6-3n-16w, drilling 5,761 ft. in Miocene sandy shale, elev. 1,516 ft.
Kenneth Oil Prod. Co. 1 Shepherd, 34-4n-15w, T.D. 2,160 ft. in sand and shale, P.B. 850 ft. to redrill, elev. 2,000 ft.
Tunnel Oil Co. 1 Needham, 13-3n-16w, T.D. 1,760 ft. in gray water sand, P.B. 1,703 ft., cored oil sand, shale, and sand 1,564-1,700 ft., circulated hot oil without success, elev. 1,681 ft.
R. W. Young 1 Walker, 11-4n-16w, drilling 3,780 ft. in hard sand and shale, had oil and gas shows on ditch, elev. 1,254 ft.
Oak Canyon district, Los Angeles County: Western Gulf 1 Wickham, 31-5n-17w, delayed account of water shortage, being drilled by Kern Drilling Co., elev. 1,916 ft.
Rincon district, Ventura County: C.C.M. Oil Co. 3-C Hobson, 17-3n-24w, drilling 9,980 ft. in hard tight oil sand and shale, elev. 245 ft.
Towsley Canyon district, Los Angeles County: Barnsdall and Ambassador Pet. 1 Limebocker, 17-3n-16w, drilling 1,840 ft. in sand and shale, elev. 1,680 ft.

THE FUEL OF TOMORROW

DESERVES PROTECTION LIKE THIS



Above: Four Parkersburg 1,000 bbl. storage tanks and 750 bbl. settling tank with two 3' x 16' Parkersburg-Smith Separators near Bay City, Texas.



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At left: Parkersburg High 500 bbl. storage tanks and Parkersburg-Smith OAJ Separator near Centralia, Illinois.

PARKERSBURG DEPENDABLE LEASE STORAGE TANKS

SOUTHWEST TEXAS

Northeast Outpost to Luby Area Showing in Frio

By F. L. SINGLETON

CORPUS CHRISTI, Tex., Sept. 22.—George B. Buescher 1 Gillette, 1½ miles northeast of the Luby field, Nueces County, is scheduled to be tested during the week. Seven-inch casing was cemented on bottom at 7,314 ft., preparatory to testing sand at 7,309-14 ft., where a 12-minute drill-stem test the previous week recovered several hundred feet of 39.5-gravity oil and tested 4 lb. working pressure. Completion of the well as a commercial producer would open a new producing sand for the Luby area which has produced mainly from the Catahoula and Heterostegina sands at intervals from 4,000 to 5,000 ft. The new sand which is the Frio corresponds with the 7,300-ft. pay in the Luby field which was opened this year by Seaboard 9 Luby, a workover that was deepened from the 5,000-ft. sand. Development of this sand, however, has been confined to the one well and whether or not it will prove to be of blanket nature extending as far as the Buescher well will have to be determined by future development. The area is expected to become active in view of the fact that leases are held by several major and independent companies.

SUMMARY OF COMPLETIONS

Lower Gulf Coast

	No.	Bbl.	Footage
Oil wells: Agua Dulce	8	970	55,225
Other fields	8	643	38,843
Gas wells: Fields	1	.....	4,726
Dry holes: Fields	1	.....	3,900
Wildcats	3	.....	20,231
Total	21	.....	122,925

South Texas

	No.	Bbl.	Footage
Oil wells: Fields	10	1,032	28,097
Dry holes: Fields	2	.....	6,102
Wildcats	2	.....	7,083
Total	14	.....	41,282

South Central Texas

	No.	Bbl.	Footage
Oil wells: Fields	8	276	7,703
Dry holes: Fields	2	.....	4,045
Wildcats	2	.....	3,446
Total	12	.....	15,194

Important Stratton Outpost

Preparing to Test

On the extreme southwest side of the Stratton field, Nueces County, Sam E. Wilson and Gulf Plains Corp. were making preparations to test 1 Rivers which expected to open the first oil production on the west flank of the gas cap. Total depth of the well is 7,114 ft., and casing is being cemented to test sand at 5,700-5,800 ft. where a recent drill-stem test recovered pipeline oil. An attempt to extend production of the field into Kleberg County will be made by Humble Oil & Refining which is moving in material for its first test on the large King ranch. The location is a south offset to Southern Minerals' Wardner well recently completed as a large gas-distillate producer.

Location for an interesting wildcat was announced for Aransas County by Gulf Oil Corp. for 1 Virginia Tatton, a projected 9,500-ft. test in the Luke A. Falvel Survey. The location is about 5½ miles northwest of the St. Charles field, and about 7½ miles north of the Lamar prospect on which several deep tests showed possibilities of production, but no commercial production was ever developed.

Sejita Outpost Runs Low

In the Sejita field, Duval County, Trinity Gas Corp. 2 Jack Casey is shut down below 5,800 ft. after an electrical survey showed the sand section topped at 5,670 ft. and based at 5,842 ft. The well correlates 300 ft. lower than Standard Oil Co. of Texas 1 Casey, the discovery well located 5,500 ft. due east.

Location for a Pettus sand test was announced for the county by Luling Oil & Gas Co. for 1 Danciger Oil & Refining Co., a 5,500-ft. test in Survey 18. Henderson Coquat 1 Garcia, Jose Marvelo Ynojosa grant is drilling below 4,450 ft., where an electrical survey showed the well to be 120 ft. structurally lower than Dan Auld 1 Dimmitt, a dry hole.

Cologne 4,800-Ft. Sand Defined

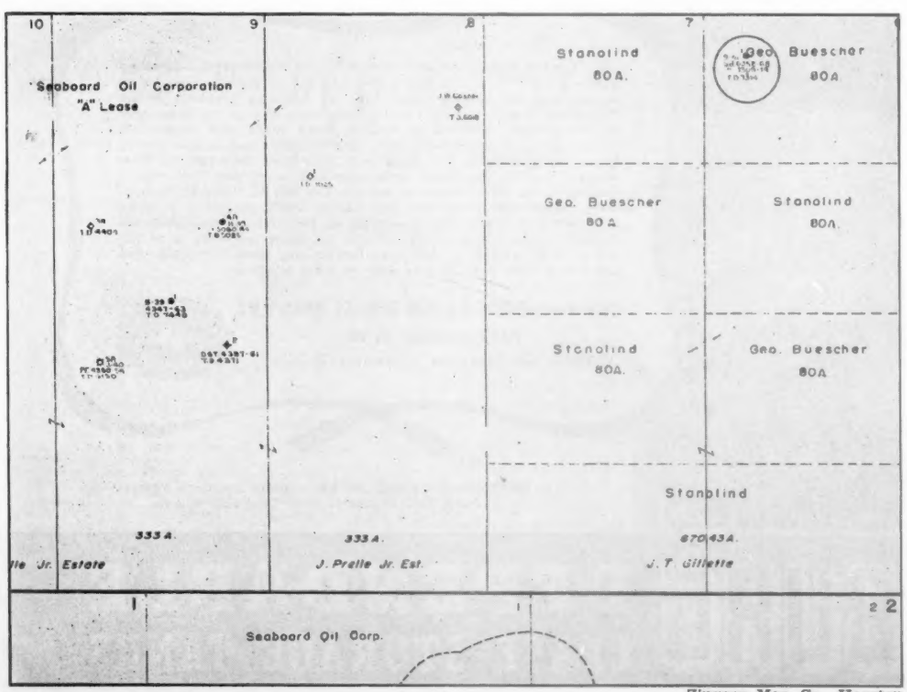
In the Cologne field, Victoria County, Houston 2-A Horenstein is believed to have defined the newly discovered 4,800-ft. sand as a 20-minute drill-stem test at 4,838-48 ft., tested 2 lb. working pressure and recovered 2,000 ft. of salt water. The well is drilling ahead below 4,900 ft.

Randado Outpost Shows as Producer

Further development in the Randado field, Jim Hogg County, is anticipated by the showing of Big Rich Oil Co. 1 Palacios. Total depth of the hole is 3,008 ft., and the well is showing for a gas-distillate producer while testing through perforated casing at 2,922-30 ft. This is a new and deeper sand for the area, being several hundred feet deeper than the main producing sand at approximately 1,200 ft.

New Sand Found at Kelsey

On the Brooks County side of the Kelsey field, Humble Oil & Refining Co. 81 McGill has apparently opened a new producing sand for the structure as a drill-stem test in sand at 4,924-30 ft., recovered 2,000 ft. of pipeline oil and tested 200 lb. working pressure. The well is located on the northeast edge of production and it is possible that the new sand may cover a large area in view of the recent showing of Magnolia 9 State-Marshall, which tested the sand at 4,985-92 ft., and recovered 70 ft. of oil. However, mechanical trouble developed, and the hole was plugged back preparatory to sidetracking.



Zingery Map Co., Houston

George B. Buescher 1 Gillette (indicated by circle) which opens new producing area and new sand for the North Luby field, Nueces County

SOUTHWEST TEXAS COMPLETIONS
CORPUS CHRISTI DISTRICT

Fields

Agua Dulce, Nueces County: Graham 1 Hugh Wolter, 25 bbl. open flow, perf. casing 6,932-55 ft., T.D. 6,982 ft.
Hewitt & Dougherty 1 Roy Ray, 60 bbl. open flow, perf. casing 6,816-22 ft., T.D. 7,131 ft.
H. H. Howell 4 Schulze, 222 bbl., ¼-in. choke, perf. casing 6,514-30 ft., T.D. 6,567 ft.
L. M. Lockhart 1 Von Blucher, 45 bbl. open flow, perf. casing 7,149-54 ft., 7,157-70 ft., T.D. 7,505 ft.
Renwar 1 J. C. Ingram, 144 bbl., ⅜-in. choke, perf. casing 6,421-31 ft., T.D. 6,467 ft.
Richardson 2 Harlan, 180 bbl., ⅛-in. choke, perf. casing 7,090-7,106 ft., T.D. 7,130 ft.
S. E. W. Oil Corp. 1 First Trust Joint Stock Land Bank, 152 bbl., ⅛-in. choke, perf. casing 5,560-70 ft., T.D. 6,897 ft.
Stanolind 3 Weinert, 142 bbl., ¼-in. choke, perf. casing 6,521-33 ft., T.D. 6,546 ft.
Chapman Ranch, Nueces County: Seaboard 11 Chapman, 72 bbl., pumping, T.D. 4,270 ft.
Coletto Creek, Victoria County: American Liberty 5 Machalec, 10,000,000 cu. ft. gas, open flow, perf. casing 3,573-89 ft., T.D. 4,726 ft.
Cologne, Victoria County: Houston 3 Martin, 69 bbl., ⅛-in. choke, perf. casing 4,815-26 ft., T.D. 4,855 ft.
East Premont, Jim Wells County: Transwestern 4 Dunlap, 138 bbl., 3/32-in. choke, perf. casing 6,093-96 ft., T.D. 6,254 ft.
Jay Welder, Calhoun County: Coronado Corp. 2-A Welder, 100 bbl., 7/64-in. choke, perf. casing 5,655-56 ft., T.D. 5,657 ft.
McFaddin, Victoria County: Houston 8 Fagan, 85 bbl., 7/64-in. choke, perf. casing 5,305-06 ft., T.D. 5,340 ft.
Minnie Bock, Nueces County: Phillips 1 Willgan, dry, T.D. 3,900 ft.
Reed & Cox 3-A Parr, 43 bbl., jetting, perf. casing 3,715-20 ft., T.D. 3,775 ft.
Richard King, Nueces County: Southern Minerals 19 King, 70 bbl., ⅛-in. choke, perf. casing 5,595-5,600 ft., T.D. 5,610 ft.
Victoria, Victoria County: W. V. Hardin 1 Meta Buchert, 66 bbl., perf. casing 3,082-86 ft., T.D. 3,092 ft.

Wildcats

Jim Wells County: Earl Calloway 1 Fowler, dry, T.D. 5,712 ft.
Victoria County: Juanita Corp. 1 Davies, dry, T.D. 6,016 ft.
Willacy County: Clark & Cowden 1 Yturria Cattle Co., dry, T.D. 8,503 ft.

LAREDO DISTRICT

Wildcats

Duval County: J. Scott 1 Saenz, dry, T.D. 3,282 ft.
Jim Hogg County: Sun 1-B East, dry, T.D. 3,801 ft.

Fields

Calliham, McMullen County: J. C. Thomas 1 Worley, dry, T.D. 1,002 ft.
Charamousca, Duval County: Magnolia 10 Duval County Ranch Co., 60 bbl., jetting, perf. casing 1,532-34½ ft., T.D. 1,536 ft.
Escobas, Zapata County: Dulup 9-C Garcia, 10 bbl., pumping, sand 1,031-47 ft.
Killam, Webb County: O. W. Killam 16 Villareal, 60 bbl. pumping, perf. casing 2,012-16 ft., T.D. 2,075 ft.
North Rincon, Starr County: Sun 5 Saenz, 57 bbl. oil

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This exceptionally large fluid passage through Mission Valveless Swabs permits faster falling—faster falling results in faster round trips and lower swabbing costs.

In addition to faster round trips, you get faster swabbing because the rugged construction of these swabs permits you to lift more fluid each trip.

Try Mission Valveless Swabs on your next job and see how much they reduce your swabbing costs. You can get Mission Swabs at your favorite supply store. Mission Manufacturing Company, Houston, Texas. Export Office: 30 Rockefeller Plaza, New York.

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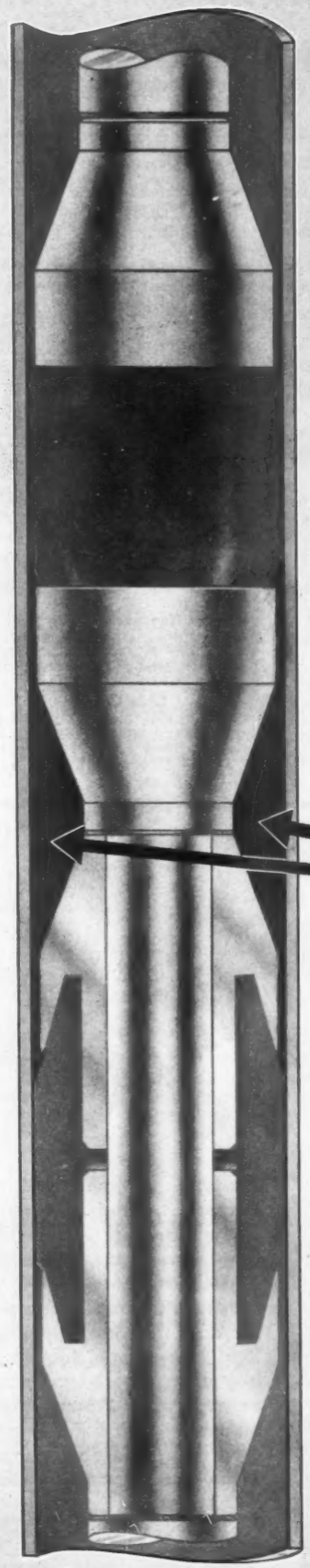
MISSION
VALVELESS SWABS



The enlarged drawing at the left shows a section of the swab turned 90 degrees to show the exceptionally large fluid passage between the rubbers.

GOING DOWN: The large fluid passage through Mission Valveless Swabs permits faster falling, faster round trips and faster swabbing.

LIFTING THE LOAD: Heavy duty rubbers and rugged swab construction permits you to lift a heavier load each trip—thus reducing the number of trips necessary.

and 26 bbl. salt water, 5/32-in. choke, perf. casing 4,751-54 ft., T.D. 4,785 ft.

Kelsey, Brooks County: Magnolia 9 State-Marshall, dry, T.D. 5,100 ft.
Humble 77 McGill, 146 bbl., 9/64-in. choke, T.D. 4,733 ft.

Kreis, Duval County: Bridwell 1-C Escapule, 264 bbl., ¼-in. choke, sand 3,219-26 ft., T.D. 3,233 ft.

Lundell, Duval County: Government Wells Corp. 57 Lundell, 32 bbl., ⅜-in. choke, sand 1,536-50 ft.

Rancho Solo, Duval County: Wheeler & Brown 7-B Peters, 15 bbl. pumping, perf. casing 1,826½-31½ ft., T.D. 1,853 ft.

Sam Fordyce, Starr County: H. J. Porter 1 Saenz, 80 bbl., ¾-in. choke, perf. casing 3,966-72 ft., T.D. 4,160 ft.

South Campana, McMullen County: Transwestern 1 W. I. Ferguson, 8 bbl. oil and 4,000,000 cu. ft. gas, ⅞-in. choke, perf. casing 3,067-70 ft., T.D. 3,130 ft.

SOUTH CENTRAL TEXAS

Wildcats

Caldwell County: Ralph Ogden 1 Hemphill, dry, T.D. 1,942 ft.

Atascosa County: Briggs Atascosa 1 Thornton Stevens, dry, T.D. 1,504 ft.

Fields

Chicon Lake, Medina County: V. T Fearis 3 Medina Irrig. Farms, 4 bbl. pumping, sand 422½-31 ft., T.D. 482 ft.
V. T. Fearis 7 Medina Irrig. Farms, 4 bbl. pumping, sand 438-48 ft., T.D. 449 ft.
V. T. Fearis 9 Medina Irrig. Farms, 3 bbl. pumping, sand 435-47 ft.
V. T. Fearis 14 Medina Irrig. Farms, 2 bbl. pumping, sand 411-18½ ft., T.D. 420 ft.
Charles Wagener 55-A Medina Irrig. Farms, dry, T.D. 480 ft.
Charles Wagener 58-A Medina Irrig. Farms, 3 bbl. pumping, sand 406-17 ft., T.D. 417 ft.
Charles Wagener 59-A Medina Irrig. Farms, 2 bbl. pumping, sand 400-09 ft.

Elgin, Bastrop County: Marts & Beaven 1 Byron Cheney, dry, T.D. 3,565 ft.

LaCoste, Bexar County: William Peacock 2 fee, 12 bbl. pumping, top pay 1,132 ft., T.D. 1,154 ft.

Pearsall, Frio County: Osborn, Swearingen & Miller 2 Davis, 186 bbl. oil plus 10 per cent salt water, 3/32-in. choke.

SOUTHWEST TEXAS DRILLING REPORT

Brooks County: Sun 1 J. D. Cage, Sur. 141, coring sandy shale 7,472 ft.
Standard Oil Co. of Texas 1 Hocker, Palo Blanco area, drilling shale 4,970 ft.

Gonzales County: Texas 1 Hendershot, Thomas Doyle Sur., drilling shale 4,494 ft.

Jim Hogg County: V. G. Schimmel 1 T. E. East, El Rando grant, drilling shale 2,870 ft.

Maverick County: Humble 2 Chittim, Chittim field, top Georgetown lime 2,867 ft., drilling lime 2,886 ft.

Nueces County: Premont 1 Noakes, G. Farias Sur., drilling shale 3,650 ft.
Southern Minerals 1 Bartel, Mantro Briggs and Kuykendall Sur., dry, T.D. 6,509 ft.

Webb County: Magnolia 1 Santo Tomas Ranch, 19 mi. SW of Callaghan, drilling shale 4,886 ft.

Wilson County: H. J. Baker 1 J. H. Meyers, sand 635-39 ft., T.D. 640 ft., pumped dry.

Zavala County: Humble 1 Rosa Wolf, dry, T.D. 6,890 ft.

Kentucky Fields

(Continued from Page 78)

5317 Jesse Bates, Dry Creek, 2,974 ft., shale.
5329 Richard Hall, Dick Hall Branch, 2,830 ft., T.D., white slate.
5330 Richard Hall, Right Beaver Creek, 1,210 ft., slate and shells.
5338 John J. Slone, Caneys Fork, 1,553 ft., Maxon.
5339 Wilburn Thacker, Left Fork of Troublesome Creek, 1,375 ft., sand.

Pike County

Kentucky-West Virginia Gas Co. operations:
626 J. C. Mullins, Bushy Run, T.D. 3,082 ft., white slate.
627 Kentucky Maynard, 1,810 ft., lime.
628 Hope D. Wellman, 2,375 ft., Weir.
641 W. T. Honaker, 1,285 ft., sand.
649 Norma Cornette et al, Brushy Fork, 650 ft., limy sand.
651 Adron Lowe, Lowe Branch of Johns Creek, 58 ft., slate.
5322 W. A. Campbell, Island Creek, 2,614 ft., shale.
5323 S. B. Leslie, Hollybush Branch, 1,000 ft., sand.
5324 Aaron Justice, Lower Pompey Branch, 1,430 ft., sand.
5326 W. H. Burchett, Missouri Branch, 1,920 ft., slate.
5334 James W. Bevins, Sloane Branch, 275 ft., slate.

Floyd County

Kentucky-West Virginia Gas Co. operations:
642 Celina Branham, 1,585 ft., Injun.
644 W. L. Lewis, Daniels Creek, 1,435 ft., lime.
648 F. M. Rice, Hunt's Fork of Prater Creek, 711 ft., sand.
650 Harvey Clark, Buffalo Creek, building rig.
5301 James C. Jones, 3,712 ft., white slate.
5327 James Stratton, 2,610 ft., shale.
5332 John H. Burchett, 1,390 ft., lime.
5336 Preston Hamilton, Mitchell Fork of Muder Creek, 300 ft., slate.
5337 A. R. Music, Crooked Branch of Johns Creek, 1,209 ft., sand.
5342 John Crider, Buffalo Creek, 981 ft., Salt sand.
5344 Aquilla Harmon, Shop Branch of Mare Creek, 1,593 ft., lime.

Martin County

Kentucky-West Virginia Gas Co. 5341 W. B. Preece, 1,505 ft., slate.

WESTERN KENTUCKY COMPLETIONS

(Reported week ended September 13, 1941)

Butler County

Silver City district: Phillips 8 Martha Hawes, dry, T.D. 530 ft.

Rochester district: Collins 4 Schrumm, dry, T.D. 1,187 ft.

Daviess County

Utica district: Baldwin Oil 4 A. A. Westerfield, 30 bbl., 40-qt. shot, Bethel sand 1,485-99 ft., T.D. 1,520 ft., deepened from 1,187 ft.
Hupp 1 A. C. Baird, dry, T.D. 1,840 ft.
Farmer 2 V. Fitts, 10 bbl., stray sand 981-95 ft., T.D. 1,519 ft.

Pleasant Ridge district: Daugherty 2 M. Ashley, 15 bbl., 20-qt. shot, stray sand 721-30 ft., T.D. 735 ft.

Hancock County

Floral district: Batton 3 H. Remington, dry, T.D. 437 ft.

Pellville district: Vickers 8 L. Payne, dry, T.D. 475 ft.
Leeper 5 F. Rowland, 10 bbl., 15-qt. shot 476-90 ft.
Leeper 6 F. Rowland, drilling 350 ft.

Logan County

Diamond Springs district: Henry 3 H. Sneed, dry, T.D. 750 ft.

McLean County

Northwest Livermore district: Rex-Pyramid 2 Ora Bartimus, dry, T.D. 1,817 ft.

Maxwell district: Callas 2 N. Thomasson, dry, T.D. 560 ft.

Ohio County

Fordsville district: Vickers 4 Mrs. A. S. Lang, dry, T.D. 324 ft.

Friendship Church district: Hart 7 A. S. Crowley, 10 bbl., 20-qt. shot, Jett sand 472-80 ft., T.D. 497 ft.

Union County

Morganfield district: Sun Oil and Ky. Natural Gas 1 J. P. Rayburn, dry, T.D. 2,632 ft.

WESTERN KENTUCKY COMPLETIONS

(Week ended September 20)

Daviess County

Maxwell district: Hudson 1 C. L. Morgan, dry, T.D. 680 ft.

Utica district: Anton 2 R. Y. Cravens, 65 acres, dry, T.D. 1,363 ft.

Hancock County

Pellville district: Leeper Oil Co. 6 Frank Rowland, 10 bbl., 40-qt. shot, Jett sand 483-95 ft.

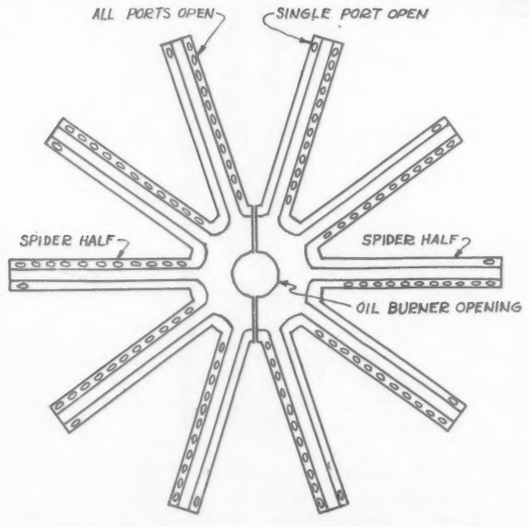
Floral district: McDonough & Co. 1 Robert Stevens dry, T.D. 436 ft.

Ohio County

Pleasant Ridge: Wilkins 2 E. K. Moseley, 45 bbl., 80 qt. shot, Jett sand 834-74 ft., T.D. 876 ft.
Wilkins 1 J. N. Bean, T.D. 913 ft.

Adaburg district: Furr & Stoltz 5 J. A. Sapp heirs dry, 200 ft.

JOHN ZINK BURNERS



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ROCKY MOUNTAIN AREA

Deep Denver Test Stopped By Zoning Ordinance

By T. R. INGRAM

DENVER, Colo., Sept. 22.—Town lot drilling in Denver is taboo as a result of a decision by the city zoning board. Thomas P. Breland, a contractor, applied for a permit to drill a deep well at the corner of South Vine Street and East Iowa Avenue in search of oil, but the board of water commissioners protested on the ground that all subsurface water belongs to the city, and it was denied. Nothing was said about oil by the board's representative. According to geologists, drilling in that area might be very deep as it is estimated 15,000 ft. to the Dakota a few miles to the south. This is the second application rejected in recent years. In the old days when oil was a nuisance, the late Gov. John Evans drilled a well in the heart of the city for water, but it was spoiled on account of too much oil in the hole and it was plugged.

SUMMARY OF COMPLETIONS

Wyoming

	No.	Bbl.	Footage
Oil wells: Fields	5	1,347	13,263
Gas wells: Fields	1	*0.1	648
Dry holes: Wildcats	1		215
Total	7		14,126

Montana

	No.	Bbl.	Footage
Oil wells: Fields	5	784	12,962
Gas wells: Fields	3	*11.6	2,674
Dry holes: Fields	2		2,460
Total	10		18,096

*Million cu. ft.

Small Extension for Wertz And Rock River Fields

Best completion of the week in the Rocky Mountain area was Sinclair-Wyoming 21-A Wertz, in the Wertz field, for 960 bbl. in the Tensleep. It extended the proven area one location to the north.

The Ohio Oil Co. for the third time this year has extended the Rock River field to the north one location at a time as it drilled along a trend to the northwest. Latest completion was its 4 Harrison & Cooper, NW SE 27-20n-78w, for 127 bbl. a day in the Lakota at 3,657-78 ft.

One Tensleep Test Abandoned And One Started

First deep test to the Tensleep in Bison basin, Fremont County, Wyoming, in Bison Basin Oil 1 Kirk, NW SW 17-27n-95w, where seven or eight wells showed oil or gas in upper horizons in past years, proved a failure in that horizon which had water at 4,819 ft.

Continental Oil is moving in machine to explore the possibilities in the Tensleep at shallow depth on the Circle Ridge structure, 5 miles northwest of Maverick Springs field. Structure is a small dome with sharply dipping flanks and 2,000 ft. of closure. Union Oil Co. of California drilled a well in NE NE 1-6n-3w in 1923 and recovered approximately 132 bbl. a day of 24-gravity oil at 592-656 ft. It has been shut in ever since. The new test will be immediately south of old well.

Other Wildcats

Ohio Oil will drill an important wildcat on the Elk Mountain structure 12 miles west and 1 mile south of the Medicine Bow field in 1 Union Pacific, NE NE 33-20n-81w, and is moving in rotary to go to the Sundance at 4,000 ft.

Continental Oil released location for a Tensleep test on O'Brien Springs structure, Lost Soldier basin, a low dip basinward anticline with indicated closure of 300 ft. So far all Tensleep wells in that area have proven productive. Location is SE SE SW 1-24n-88w.

Yale Oil Corp. is drilling its second test on Basin Creek, Yellowstone County, Montana, 1¼ miles northeast of a wildcat recently abandoned at 1,300 ft.

COLORADO DRILLING REPORT

Logan County: Mutual Oil 1 State, C SW SW 32-7n-51w, T.D. 4,840 ft., cemented 5-in. at 4,835 ft., moving in cable tools to drill into Dakota.

Moffat County: Texas 13 Knowlton, NW NW NW 10-4n-91w, spudding 210 ft.

Privett & Spangler 1 Stillings, NE SE SE 12-5n-96w, drilling 1,165 ft. in sandy shale, probably Niobrara.

Mountain Fuel Supply 2 Lasher, NW NE NE 25-12n-101w, coring 3,234 ft. in Wasatch, sand at 2,120-2,202 ft. tested 2,155,000 cu. ft. gas and trace of water.

Great Divide Petroleum 1 Wyatt, NW NW SE 6-9n-92w, drilling 1,270 ft., rotary tools.

Ouray County: Ridgway Petroleum 1 Bennett, C NE SE 2-45n-8w, drilling temporarily suspended at 980 ft., unable to shut off water.

Rio Blanco County: Texas-California 7 Unit, NE SW SE 34-3n-94w, drilling 6,094 ft.

United Oil Producers 1 Hill, Lot 13, 6-1n-101w, S.D. 976 ft.

WYOMING COMPLETIONS

Hamilton dome, Hot Springs County: Phebus Oil 3 Government, CNL SW SW 11-44n-98w, T.D. 648 ft., top of Muddy 638 ft., completed for 139,000

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Lv. Kansas City 6:55 pm Oct. 31	Lv. La Junta . . . . 2:05 am Nov. 1
Lv. Tulsa . . . . . 4:00 pm Oct. 31	Lv. Albuquerque 9:40 am Nov. 1
Lv. Bartlesville 5:00 pm Oct. 31	Ar. Barstow . . . 10:40 pm Nov. 1
Lv. Wichita . . . 9:00 pm Oct. 31	Ar. San Francisco 9:00 am Nov. 2

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cu. ft. of gas to be saved for fuel, north offset 2 Government, completed in 1939 for 330 bbl. a day in Tensleep at 3,017 ft.

Mahogany Butte, Washakie County: E. W. Sykes 1 Government, SE SE NE 23-43n-89w, dry at 215 ft., water in 4 sands.

Maverick Springs, Fremont County: Kirk Oil 5 Tribal, C NE SE 22-6n-2w, T.D. 1,378 ft. in Embar, top 1,135 ft., 8¼-in. at 1,227 ft., 250 bbl. per day.

Newcastle field, Weston County: Joseph Dornacher 1 Kinney & Collins, NW NW NE 33-45n-61w, T.D. 626 ft., water sand 610-20 ft., P.B. to 570 ft. and completed 2 bbl. a day.

Osage field, Weston County: Wyoming Gas & Oil Co. No. 23, NW SW SE 19-46n-63w, T.D. 1,458 ft., P.B. to 1,430 ft. and completed in Muddy sand at 1,407-20 ft. for 8 bbl. a day after being shot with 40 qt.

Rock River field, Carbon County: Ohio 4 Harrison & Cooper, NW SE 27-20n-78w, T.D. 3,678 ft., completed for 127 bbl. on pump in Lakota at 3,658-78 ft., top first Muddy 3,497 ft., Dakota 3,633 ft., 5½-in. at 3,659 ft.

Wertz field, Carbon County: Sinclair-Wyoming 21-A Wertz, SW NW SW 6-26n-89w, T.D. 6,129 ft., 960 bbl. in 24 hr. from Tensleep, top at 5,793 ft., 7-in. at 5,794 ft.

WYOMING DRILLING REPORT

Carbon County: Continental Oil 1 Frank M. Johnson, SE SE SW 1-24n-88w, location for Tensleep test.

O'Brien Springs, first report.

Sinclair-Wyoming 27-A Wertz, CSL NW SW 6-26n-89w, derrick.

Ohio Oil 1 Union Pacific, NE NE 33-20n-81w, moving in heavy rotary for test to Sundance at 4,000 ft., on Elk Mountain structure, first report.

Sinclair-Wyoming 26-A Wertz, NW SE SE 1-26n-90w (Sweetwater County), rigging up rotary.

Sinclair-Wyoming 1 Mary Carter, NE SE SE 31-25n-88w, building rig, Sherrard dome.

Sinclair-Wyoming 5-F Mahoney, C NE NW 34-26n-88w, T.D. 4,512 ft., set whipstock 2,803 ft., redrilling 2,951 ft.

Fremont County: Continental Oil 3 Shoshone, CEL SE NE 1-6n-3w, moving in machine to explore Tensleep at around 600 ft., Circle Ridge field, first report.

Indian Oil 3 Tribal, NW SW NW 23-6n-2w, cemented 8¼-in. 1,480 ft., top Embar 1,438 ft.

Bison Basin Oil 1 Kirk, CEL NW SW 17-27n-95w, T.D. 4,819 ft., water in Tensleep, top 4,645 ft., will test show in Sundance before abandoning.

Kirk Oil 6 Tribal, CNL NW SW 23-6n-2w, spudding 45 ft., to go to Embar, first report, Maverick Springs field.

Lincoln County: H. C. Harris 1 Government, SE NW NW 23-21n-117w, drilling 3,505 ft. in brown sand topped at 3,480 ft.

Natrona County: Casper Creek Oil 1 State, SW SW NW 36-36n-81w, T.D. 2,640 ft., lowering 5⅞-in. for water shutoff.

Stanolind 21 SD-3, NE SW NW 35-40n-79w, T.D. 2,804 ft., top third Sundance 2,789 ft., washing in.

General Petroleum 33-22-P, NW SE NW 22-35n-77w, T.D. 4,600 ft., cemented 5½-in. on top Shannon sand 4,596 ft.

General Petroleum 17-35-G, NW NE SE 17-35n-77w location, outpost west side Cole Creek, first report.

Niobrara County: Ohio Oil 10 Rohlff, SW NE 32-36n-65w, T.D. 5,370 ft., P.B. to 5,328 ft., acid 1,000 gal., swabbed 170 bbl. water and 24 bbl. oil in 17 hr., installing pumping unit.

Lewis Gokel No. 2, CEL SW SE 2-34n-63w, drilling 314 ft.

Continental 14 Rohlff, NW NW SW 32-36n-65w, drilling 4,630 ft., lime and shale.

Western Petroleum 1 Mosier, SW SW 31-35n-64w, drilling 1,240 ft. after changing over to slim-hole rotary, contract to Garetson-Knisely Co.

Park County: Yale Petroleum 1-B Frisby, NE NE SE 32-52n-100w, spudding, first report, Oregon Basin field.

Husky Refining 4-A Rosseau, NW SE SW 33-51n-100w, moving in rotary, first report, Oregon basin.

Enalpac Oil & Gas 3 Purple, NW SW SE 32-51n-100w, drilling 3,360 ft.

Stanolind 11-X Rosenberg, SE NE NE 26-58n-98w, T.D. 3,146 ft., top Embar 2,997 ft., Tensleep 3,050 ft., swabbed 6 bbl. per hr., installing pump.

Sublette County: Texas 3-J Government, NE SW SW 27-27n-113w, drilling and coring at 809 ft.

Sweetwater County: Sinclair-Wyoming 8 Hughes, SW SW SW 2-26n-90w, drilling 1,630 ft.

Farson Oil & Gas 1 Government, C SE NE 18-25n-108w, drilling 1,497 ft.

Weston County: John Brorphy 1 Hansen, NE NE NW 13-44n-63w, drilling 3,070 ft., carrying 5⅞-in. at 3,044 ft.

Western Oil Investors No. 1, NW SW 24-44n-63w, T.D. 3,300 ft., redrilling 2,845 ft., carrying 8⅝-in. 2,805 ft.

Updike Brothers No. 2, NW SW NE 35-46n-64w, drilling below 500 ft.

MONTANA COMPLETIONS

Box Elder field, Hill County: Independent Natural Gas No. 1007, C SW SW 13-32n-17e, Eagle sand at 1,277-83 ft., 9,000,000 cu. ft. gas, S.I. pressure 410 lb.

Cedar Creek field, Fallon County: Mondakota Dev. No. 2, SW SW NW 18-5n-61e, T.D. 603 ft., Judith River 535-607 ft., 400,000 cu. ft. gas, 175 lb. pressure.

Cut Bank field, Glacier County: Texas 2-B Government, SE SE SE 18-32n-5w, T.D. 2,730 ft., 7-in. 2,668 ft., Cut Bank 2,650-2,729 ft., main pay 2,725-29 ft., swabbed 160 bbl. first 24 hr.

Texas 3 Willis, SE NW NE 19-32n-5w, T.D. 2,775 ft., 7-in. 2,702 ft., Cut Bank 2,685-2,744 ft., 200 ft. oil in hole, 30-qt. shot at 2,735-44 ft., oil increased to 350 ft., est. 10 bbl.

Consolidated Gas 1 Frary-Tribal-208, NE NE SE 24-32n-6w, T.D. 2,980 ft., 7-in. 2,954 ft., good show oil in Sunburst 2,900-15 ft., Cut Bank 2,924-74 ft., main pay 2,960-74 ft., 2,000 ft. oil in hole, swabbed 330 bbl. first 24 hr.

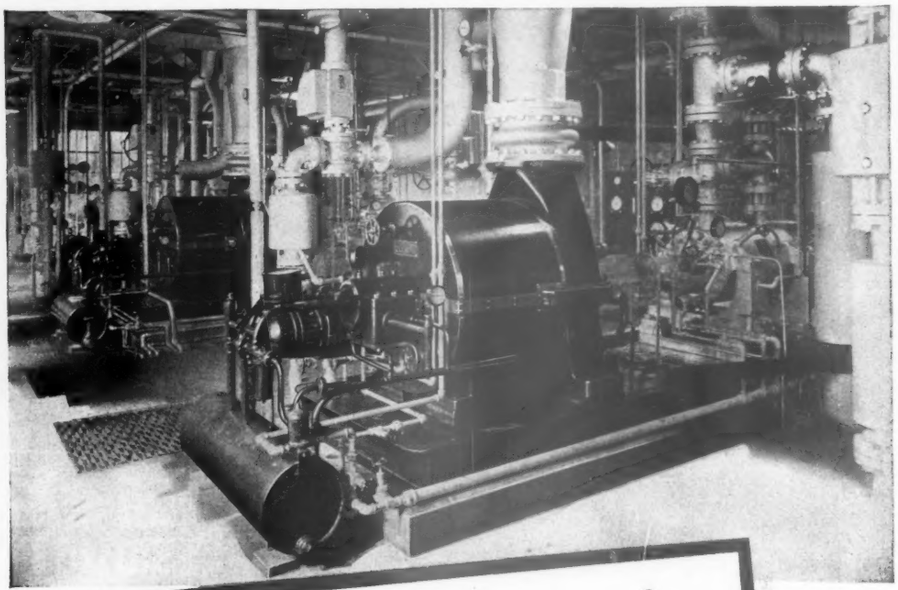
McDonald, Henderson, Overcash 2 Tribal-190, SW NW NW 29-32n-5w, T.D. 2,832 ft., 6¼-in. 2,780 ft., Cut Bank 2,778-2,828 ft., main pay 2,784-2,828 ft., 2,000 ft. oil in hole, swabbed 200 bbl. first 24 hr.

Devon field, Toole County: Frank P. Walsh 1 Halverson, C SW NE 18-33n-2e, T.D. 788 ft., completed in stray sand for 2,174,000 cu. ft. gas, pressure 114 lb.

Kevin-Sunburst field, Toole County: Big West Oil 1 State, NE NE NW 13-35n-4w, T.D. 2,350 ft., contact 2,330-38 ft., P.B. to 2,340 ft., 500 gal. acid, results water, dry.

Nepstad-Montgomery-Farger 4 Haugin-1, SW SE SE

(Continued on Page 103)



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North Louisiana-Arkansas

(Continued from Page 75)

Carter and Phillips, discoverers of the Larto Lake field in NE NE 15-5-5, Catahoula Parish, have staked 2-B Tensas Delta Land Co., located in NE SE 14-5-5. It will seek the 5,112-17-ft. Wilcox pay which produced 154 bbl. daily on initial tests in the Larto Lake discovery well.

Also in Catahoula Parish Carter staked location for 1-G Tensas Delta Land Co., located in NE SW 30-6n-5e, about 6 miles northwest of the Larto Lake discovery well and approximately midway between that discovery and the Walters field discovery of several weeks ago.

In La Salle Parish Carter staked 1-E Tensas Delta Land, NW NW 5-5n-4e, about 10 miles west and slightly north of the Larto Lake discovery well.

Also in La Salle Parish N. H. Wheless staked 1-A Louisiana Delta Land Co., NW NE 26-7n-4e, about 4 miles north and slightly west of the Walters field and approximately on the northeastern shore of Catahoula Lake.

In the Shreveport field and in Caddo Parish R. E. Allison 1 Ellerbe, SE cor. 27-18n-14w, deep test in the field, is drilling ahead below 3,378 ft.

NORTH LOUISIANA COMPLETIONS

Wildcat, Grant Parish: Herton Oil 1 McNeely, SW NE 10-6n-3w, Wilcox 2,845 ft., dry at 5,509 ft.

Wildcat, La Salle Parish: H. L. Hunt 18-F Goodpine, SE NW 4-6n-3e, top Wilcox 2,715 ft., dry at 5,204 ft.

Joe L. May 1 La. Delta Land, SW NW 20-7n-4e top Wilcox 2,655 ft., Midway 5,125 ft., dry at 5,367 ft.

Wildcat, Tensas Parish: H. L. Hunt 5 Chicago Mill & Lbr. Co., NE NW 1-11n-9e, dry at 4,210 ft.

Bellevue, Bossier Parish: Premier Investment Co. 58

Wyche, SE NW 14-19n-11e, pumped 8 bbl., 425 ft.
Caddo, Caddo Parish: Burnham Drilling Co. 1-B Browning, SE NW SE NE 33-22n-16w, pumped 7 bbl., 2,462 ft.
C. C. Crews 13 Stiles, NE SW 33-21n-16w, pumped 65 bbl., 2,380 ft.
Magnolia 34 Thigpen, SW NE 6-20n-15w, flowed 113 bbl., 4,000 gal. acid, 1,546 ft.
S. Reele 1 Herndon, SE NW 22-21n-15w, pumped 25 bbl., 2,000 gal. acid, 1,613 ft.
Stanolind 140 Dillon, NE SW SW 13-21n-15w, flowed 236 bbl. oil and 120 bbl. water, 1,695 ft.
Homer, Claiborne Parish: Carter 23 Langston-Palmer, SE NW 19-21n-7w, pumped 9 bbl., 1,295 ft.
Little Creek, La Salle Parish: H. L. Hunt 37-F Goodpine, SW SW 29-9n-2e, 142 bbl. oil and 3 bbl. water, perf. casing 2,398-2,410 ft., T.D. 2,700 ft.
Monroe, Union Parish: N. & W. Corp. 1 Haile, SE NW 28-21n-3e, 8,960,000 cu. ft. gas, 2,185 ft.
N. & W. Corp. 1 Thomas, SW NE SE 25-20n-3e, 1,952,000 cu. ft. gas, 2,162 ft.
Nebo, La Salle Parish: H. L. Hunt 30-A Goodpine, SE NW 9-7n-3e, 108 bbl. oil and 12 bbl. water, perf. casing 3,396-3,404 ft., T.D. 4,102 ft.
H. L. Hunt 60-F Goodpine, NE SW 10-7n-3e, 176 bbl. oil and 4 bbl. water, perf. casing 3,984-87 ft., T.D. 4,025 ft.
Olla, La Salle Parish: Arkansas Fuel Oil 16-C Tremont, SW NE 3-9n-2e, 92 bbl. oil and 8 bbl. water, perf. casing 2,312-16 ft., T.D. 2,415 ft.
Arkansas Fuel Oil 1-F Kees, NW SW 8-10n-3e, 24 bbl. oil and 1 bbl. water, T.D. 2,186 ft.
Trout, La Salle: Margay 1 Pipes, SW NE 19-8n-3e, dry at 3,454 ft.

NORTH LOUISIANA WILDCAT REPORT

Bienville Parish: R. E. Collins 1 Madden, SW SW SE 3-16n-8w, running 8-in. casing at 1,780 ft.
Caddo Parish: R. E. Allison 1 Ellerbe, SE cor. 27-18n-14w, drilling 3,378 ft.
Caldwell Parish: Southern Carbon Co. 1 Howard, SW SE 13-14n-4e, Wilcox 1,105 ft., Midway 2,860 ft., Cretaceous 3,438 ft., perf. casing 3,497-3,508 ft., tested salt water, squeezed off.
Catahoula Parish: O. C. Borah 1 Womack, irregular section 54-9n-5c, drilling 2,750 ft.
Roy D. Fisher 1 Bradford, SW NW 29-7n-5e, Wilcox 3,145 ft., ran electrical survey and cut 90 side-wall cores, no shows, S.D. waiting orders 5,886 ft.
H. L. Hunt 21-F Goodpine, NW SW 9-10n-5e, surface casing 265 ft.
H. L. Hunt 2-A La. Central, NW SE 9-9n-6e, Wilcox 3,037 ft., Midway 5,649 ft., drilling 7,111 ft.
Carter 1-G Tensas Delta Land, NE SW 30-6n-5e, location.
Carter and Phillips 2-B Tensas Delta Land, SE NE 14-5n-5e, in new Larto Lake field, location.
Claiborne Parish: Hunt Oil 1 Mitchiner, NE SW SW 15-23-7, massive anhydrite 3,897 ft., stringer 4,182 ft., fishing 6,603 ft.
Concordia Parish: Harry W. Elliott 1 Brown, NE SW 33-8n-8e, derrick.
J. K. Hughes Oil 1 Merrill, E½ SW 23-7n-9e, location.
De Soto Parish: J. E. Stark 1 Cook, NW NE 32-13-14, pumped 20 bbl. daily, 80 per cent salt water, 2,855 ft.
J. E. Stark 1 May Hudson, NW NE 8-12-14, derrick.
Grant Parish: H. L. Hunt 5-F Goodpine, SW SE 22-8n-1w, derrick.
H. L. Hunt 6-F Goodpine, SE NW 29-9n-1e, drilling 2,887 ft.
H. L. Hunt 10-F Goodpine, SE SE 34-9n-1w, derrick.
La Salle Parish: Carter 1-E Tensas Delta Land, NW NW 5-5n-4e, location.
N. H. Wheless 1-A La. Delta Land, NW NE 26-7n-4e, location.
Lincoln Parish: Thomas Richmond 1 Every, 8-18n-1w, derrick.
Natchitoches Parish: E. H. Demetrio 1 Winn, SE NW 25-10-10, S.D. 1,550 ft.
C. Porter Johnson 1 Lacaze, irregular section 63-6n-4w, 12½-in. 205 ft., S.D.
Red River Parish: Republic Prod. Co. 1 Timon, irregular section 39-11n-9w, drilling 4,683 ft.
Sabine Parish: Roy Raines 1 C. Carter, 27-9-11, old T.D. 2,403 ft., deepened to 3,485 ft., S.D.
Vernon Parish: C. A. Kelsey 1 Mills, NE SE 31-3n-11w, derrick.
Winn Parish: H. L. Hunt 3-F Goodpine, SW NW 26-10n-2w, drilling 3,610 ft.

Shelby County Test Shows Oil in Paluxy

A possible new discovery in Shelby County held attention at the close of the week. Grady Vaughn 1 Frost, J. Buckley Survey, 9 miles southwest of Center in the Arcadia community, has ordered casing for a test of shows in the Paluxy sand. The test is bottomed at 6,800 ft. Oil shows with porosity were found from 6,514-28 ft. and at 6,340 ft. The wildcat reported top of the Austin chalk at 3,905-35 ft., Comanche 3,974 ft., Paluxy 4,366 ft., upper Glen Rose 4,596 ft., massive anhydrite 6,105 ft., and base of massive at 6,305 ft.

A new wildcat starting in the area is Vaughn 2 Frost, in the Tyre Buckley Survey, 4 miles to the south. The original drilling block called for two wildcat tests.

EAST TEXAS BORDER WILDCAT REPORT

Harrison County: Capps 1 H. L. Eldridge, J. B. Crain Sur., drilling 2,819 ft., last report.
Marion County: A. H. Carpenter 1 T. G. Allen, Robert Potter Sur., pumping salt water, scum oil, T.D. 2,605 ft.
Panola County: Crow Drilling 2 Frost, J. M. Woolworth Sur., coring 5,180 ft., last report.
Sabine County: Sturm & Womack 1-A Keith, L. Grose Sur., S.D. 4,394 ft., may abandon, salt water.
San Augustine County: Roper & Todd 1 Long Bell Lumber Co., N. Hyden Sur., fishing 5,063 ft.
Shelby County: Grady Vaughn 1 Frost, J. Buckley Sur., 9 miles SW of Center, T.D. 6,800 ft., top Glen Rose 4,590 ft., massive anhydrite 6,105 ft., base massive anhydrite 6,305 ft., shows oil 6,514-28 ft. and at 6,340 ft., preparing to set casing for test.

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A DIVISION OF GENERAL AMERICAN TRANSPORTATION CORPORATION

Strawn Discovery in Western Young County Testing

By D. H. STORMONT

WICHITA FALLS, Tex., Sept. 22.—The brisk activity noticed in this district the past few weeks is beginning to show successful results, including new Strawn sand pool in Young County and increased Mississippi lime production in Young, Clay and Archer counties.

The new Strawn sand pool for western Young County has been definitely assured by Panhandle Refining Co. 1 Allar-Hunt, Section 3409, T.E.&L. Survey, 14 miles west of Graham. The sand was drilled from 2,706-11 ft. and 7-in. casing set on the sand at 2,700 ft. After the plug was drilled and the hole cleaned out to bottom, the test filled 2,700 ft. with oil in 8 hours.

Mississippi Lime Production in Coleman Pool

Operators estimate the new well good for 150 bbl. daily. At the end of the week the well was shut in to build up pressure.

The Coleman pool of eastern Archer County is in line for its second pay horizon. Shell 4-A Coleman, Block 74, A.T.N.C.L. Survey, topped the Mississippi lime at 5,258 ft. and found a saturated section from that depth to 5,328 ft. On a 38-minute drill-stem test the well flowed 30 minutes while the tool was opened and continued to flow another 30 minutes after the tool had been closed. No water was reported.

The test was originally scheduled to the Ellenburger lime as the first test in the pool to this section, and it is understood that the operator will deepen to that level before attempting completion.

Olney Mississippi Lime Pool Extended

The Olney Mississippi lime pool of northern Young County has been assured a ⅝-mile northwest extension by Phillips and King Oil Co. 9 Daniel, Block 164, T.E.&L. Survey. The test was acidized with 3,000 gal. in the Mississippi lime from 4,842-96 ft. and with 19 bbl. oil load, flowed 142 bbl. of oil and 96 bbl. of water and basic sediment in 3 hours through ¾-in. choke on tubing. Shut in over night, the test flowed 139 bbl. of oil and 50 bbl. of water in 2 hours. It is thought that the water is acid water and that it is not coming from the formation.

Another Mississippi lime producer for the Henderson pool in the southwestern part of Clay County is expected in Shell 17-C Henderson, Block 2605, T.E.&L. Survey. The Mississippi was logged at 5,930 ft. and lime with streaks of saturation was drilled from 5,970 ft. to 6,040 ft. Operator is drilling below 6,040 ft.

Six Wildcats Started

During the week, six new wildcat tests were proposed for the North Texas district. Clay County received two of the new tests and Montague, Wilbarger, Jack and Young counties one each.

Continental has staked 1 Earl Spring, 1,254 ft. from the west and 200 ft. from the north lines of Section 24, Block 4, H.&T.C. Survey, 2½ miles northeast of production on the Hapgood ranch in eastern Clay County. The test will be drilled on a 3,000-acre block and is contracted to 6,500 ft.

The other wildcat in Clay County will be drilled by Shell as 1-A C. T. Maddox. Contracted to 5,700 ft., the test is on a large seismograph prospect 8 miles northwest of Ringgold. Exact location is 2,272 ft. from the north and 2,114 ft. from the west lines of the T. M. Hughes Survey, Abstract 179. Drillers are scheduled to start work immediately.

Definite location has been announced for a 6,000-ft. Ellenburger lime test in eastern Montague County. R. L. Foree and Lou Stogner have staked 1 C. D. Meador 467 ft. out of the south corner of the J. B. Miller Survey, on a 206-acre tract.

Bruce Sullivan of Fort Worth has taken a 3,000-acre block in Wilbarger County from H. F. Smiley, with the understanding that he must start a 4,700-ft. wildcat operation before October 25. Location has been staked at 1 Nettie Hamilton, 467 ft. from the north and east lines of the Hamilton 160-acre tract in Section 47, Block 12, H.&T.C. Survey. The block lies 5 miles southeast of the Fargo field.

Five miles west of Jacksboro in Jack County, L. T. Burns has made location for 1 Millie Kemo, 1,298 ft. from the north and 467 ft. from the east lines of a 127.7-acre lease in the A. H. Larimore Survey, Abstract 363. The test will be drilled with rotary to 3,300 ft.

On a seismograph high in northeast Young County Kerlyn Oil Co. will drill 1 E. C. Garvey. Contracted to 5,700 ft., the test is 467 ft. from the north and east lines of the southeast 310 acres of Block 4, G.&B.N. Survey.

SUMMARY OF COMPLETIONS

North Texas

	No.	Bbl.	Footage
Oil wells: Fargo	2	377	8,632
K.M.A.	7	1,616	22,784
Nocona	2	17	1,619
Other fields	11	833	16,496
Wildcats	3	1,035	14,914
Gas wells: Wildcats	1	*4.25	1,469
Dry holes: Fields	9	.....	18,984
Total	35	.....	84,898

*Million cu. ft.

West Central Texas

	No.	Bbl.	Footage
Oil wells: Lewis	2	265	3,864
Other fields	3	95	4,012
Wildcats	1	190	2,625
Dry holes: Fields	3	.....	6,207
Wildcats	4	.....	5,065
Total	13	.....	21,833

NORTH TEXAS COMPLETIONS

Wildcats

Denton County: Harvey Drlg. & Reed 6 Knox, D. Boone Sur. A-100, 4,250,000 cu. ft. gas per day, 1,456-69 ft.

Jack County: Ben Rankin and Elliott Prod. 1 Stewart, Sec. 2799, T.E.&L. Sur., 160 bbl. in 24 hr., pumping, top Caddo 4,358 ft., 50-qt. shot 3,485-3,500 ft., P.B. from 4,527 ft.

Montague County: Superior Oil 1 Sealy-A, A.B. Morton Sur. A-1175, 116 bbl. in 8 hr., ¼-in. choke, est. 225 bbl., 1,000 gal. acid, 5,839-50 ft., P.B. from 6,014 ft.

Wichita County: Blanco Oil & Buchanan 8-Ellb. Thom, W. H. Spillers Sur. A-257, 185 bbl. in 3 hr., est. 650 bbl., 1,000 gal. acid, oil sands 3,786-95 ft., 3,936-49 ft., 3,972-97 ft., T.D. 4,373 ft.

Fields

Bryson, Jack County: Paul Steed 3 Derrick-A, B.S.&F. Sur. A-78, dry at 3,303 ft.

Coleman, Archer County: Southern Pet. Expl. Co. 3 Wilson, Sec. 1, Blk. 73, A.T.N.C.L. Sur., 34 bbl. in 1 hr., 30/64-in. choke, est. 375 bbl., top Strawn 4,029 ft., pay 4,029-46 ft.

Fargo, Wilbarger County: Humble 3 Anderson, Sec. 33, Blk. 15, H.&T.C. Sur., 102 bbl. in 24 hr., pumping, 3,000 gal. acid, 4,510-4,667 ft.

Amerada Pet. 2 Luedke, Sec. 36, Blk. 15, H.&T.C. Sur., 85 bbl. in 3 hr., ¾-in. choke, est. 275 bbl., 3,895-3,955 ft., T.D. 3,965 ft.

Hull-Silk, Archer County: Southern Pet. Expl. Co. 4 Wilson, Sec. 3, Blk. 73, A.T.N.C.L. Sur., dry at 4,068 ft.

K.M.A., Wichita County: Hanlon-Buchanan 4 Burnett-A, Sec. 34, H.&G.N. Sur. A-435, 10 bbl. in 24 hr., 693-706 ft.

Hanlon-Buchanan 29-A Fassett & Tuttle-C, S.A.&G.N. Sur. A-572, 60 bbl. in 3 hr., ¼-in. choke, est. 290 bbl., 160-qt. shot, 4,054-88 ft.

J. E. Farrell 9 Waggoner-A, Sec. 3, H. George Sur. A-454, 50 bbl. in 3 hr., ¼-in. choke, est. 175 bbl., 100-qt. shot, 3,762-3,808 ft.

W. B. Omohundro 15 Hooks, R. J. Scott Sur. A-255, 51 bbl. oil and 20 bbl. water in 4 hr., est. 225 bbl., 200-qt. shot, 3,760-3,814 ft., T.D. 3,818 ft.

C. W. Clark 5 Simpson, Blk. 33, K.W.V.F. Lds. Sur., 51 bbl. in 24 hr., pumping, 1,760-62 ft.

Tide Water and Perkins-Cullum 3-Ellb. Ferguson, Sec. 6, W.H. Spillers Sur. A-257, 67 bbl. in 3 hr., ¼-in. choke, est. 375 bbl., top K.M.A. 3,666 ft., Ellenburger 4,242 ft., pay 4,245-63 ft.

Tide Water and Perkins-Cullum 10-Ellb. Pettit, E. Durain Sur. A-54, 126 bbl. in 3 hr., ½-in. choke, est. 490 bbl., top Ellenburger 4,261 ft., pay 4,261-4,339 ft.

Mathis, Jack County: Lanning & Coffield 1 Knox, Sec. 2, E.P.I.W. Sur. A-948, dry at 3,405 ft.

Nocona, Montague County: Falls Refg. 17 Bouldin "Crow," J. Chambliss Sur. A-123, 7 bbl. in 24 hr., pumping, 10-qt. 777-95 ft.

Pure Oil 15 Keck, William Donocho Sur. A-178, 10 bbl. in 24 hr., 30-qt. shot, 789-819 ft., T.D. 824 ft.

Miscellaneous Pools

Archer County: Bridwell Oil 4 Falls C.S.L. "D," Lot 35, Falls C.S.L. Sur. A-130, 38 bbl. oil and 5 bbl. water in 24 hr., pumping, top Gunsight lime 1,115 ft., 2,000 gal. acid, 1,115-31 ft.

Pet. Prod. 13 King, Sec. 7, B.B.B.&C. Sur. A-48, 101 bbl. in 24 hr., pumping, 1,236-44 ft.

George Keith 1 Neal, Blk. 3, A. P. Neal Sur. A-848, dry at 1,251 ft.

Baylor County: Sinclair Prairie 2 Turberville, Sec. 205, T.&N.O. Sur. A-359, dry at 2,594 ft.

Clay County: George G. Golden & First Texas Joint State Land Bank-C, Blk. 13, Thornberry Subd., 55 bbl. in 24 hr., 1,109-30 ft.

Johnson & Kouri 6 Taylor, Sec. 39, Bacon's Subd., 50 bbl. in 24 hr., pumping, 1,116-38 ft.

Cooke County: Richard Bros. 1 Reiter, J. Clark Sur. A-194, dry at 836 ft.

Trumter Pet. 1 Andress-A, J. Clark Sur. A-194, completed as key well, T.D. 772 ft.

Trumter Pet. 22 Adress-B, J. Clark Sur. A-194, 18 bbl. in 24 hr., pumping, 770-82 ft.

Jack County: T. C. Jones 2 Roach, William Berryman and W. M. Brown Sur., Abstracts 40 and 2004, 10 bbl. in 24 hr., pumping 495-516 ft.

Wichita County: C. E. Morrison 1 Preston, W. Anderson Sur. A-1, dry at 1,382 ft.

C. B. Christie 1 Jackson-B, Sec. 3, George Wheelwright Sur., dry at 1,345 ft.

W. H. Hammon 4 Jackson, H. Hastie Sur. A-92, 75 bbl. in 24 hr., pumping, 1,290-1,307 ft.

Underwood Oil 11 Stine, H. Hastie Sur. A-98, 20 bbl. in 24 hr., pumping, 1,295-1,315 ft.

Wilbarger County: W. T. Waggoner 35 Waggoner-AA, Sec. 14, Blk. 13, H.&T.C. Sur., 18 bbl. oil and 67 bbl. water in 18 hr., est. 21 bbl., top Ellenburger 2,987 ft., perf. casing 2,983-87 ft.

Young County: Craig & Wilson 1 Clark, Sec. 208, T.E. & L. Sur., dry at 840 ft.

W. F. Palmer 3 Campbell-D, Sec. 1484, T.E.&L. Sur., 26 bbl. in 6 hr., pumping natural, est. 70 bbl., 884-900 ft.

NORTH TEXAS ACTIVE WILDCATS

Archer County: Phillips 1 Reilley "Pendery," SW NW Sec. 13, Blk. 4, H.&T.C. Sur., 5,600-ft. test, first report.

Sunray Oil Co. 1 Seibold, 560 ft. from E and 330 ft. from S lines L. P. Jones Sur. A-939, Ellenburger test, first report.

Clay County: Bridwell Oil 1 Myers, Charleton Thompson Sur. A-444, old well drilling deeper, old T.D. 6,065 ft., perf. casing 5,772-76 ft. and 5,778-92 ft., recovered 1½ bbl. oil in 24 hr., testing.

L. T. Burns 1 Hodges, 330 ft. from S and 1,320 ft. from W lines Sec. 64, J. H. Belcher Sur., P.B. to 3,938 ft., flowed 81 bbl. oil in 1¾ hr. through casing, running tubing.

L. T. Burns 1 Lyles, 1,000 ft. from E and 1,230 ft. from S lines Lot 27, San Augustine University Ld. Sur. A-403, old well drilling deeper, old T.D. 5,606 ft., derrick.

Shell 1 Maddox, 2,272 ft. from N and 2,114 ft. from W lines Hughes Sur. A-199, 5,600-ft. rotary test, first report.

Sinclair Prairie 1 Scheer, 1,124 ft. from E and 330 ft. from S lines Sec. 47, Orange C.S.L. Sur. A-368, drilling 4,089 ft.

Superior Oil 1 Seigler, 467 ft. from S and E lines W/120-ac. Sec. 3211, T.E.&L. Sur., top Barnett shale 6,219 ft., drilling 6,403 ft.

Cooke County: James Anderson 1 Orsburn, 491 ft. from N and 330 ft. from E lines B. Sullivan Sur. A-581, 2,500-ft. rotary test, first report.

Falls Refg. 1 Epps, 150 ft. from S and E lines Epps 160-ac. tract in E. Langford Sur., setting 7-in. casing at 1,658 ft.

Paul Stevenson 1 Donald, 650 ft. NE and 2,050 ft. NW of E cor. J. Cuffey Sur. A-1599, 3,000-ft. rotary test, prep. to perf. casing.

Thornton & McKee 1 Berryman, 450 ft. from N and 400 ft. from W lines Sec. 22, Barnett Sur., 1,500-ft. rotary test, spudded and S.D.

Denton County: Jones Drlg. and D. S. Hager 1 Waide, 467 ft. from S and E lines W/160-ac. of J. Pearson Sur. A-1050, old well working over, old T.D. 1,936 ft., first report.

Foard County: Bruce Sullivan 1 McCoy, 1,980 ft. from W and 467 ft. from N lines J. M. Seaton Sur., 6,000-ft. test, spudding.

Jack County: Alma Oil 1 Maxey, V. W. Maxey Sur., drilling 5,520 ft.

F. Kirk Johnson 1 Shawver, 660 ft. from S and 520 ft. from E lines of NW SE J. Turner Sur. A-609, drilling 5,385 ft.

Magnolia 1 Borden, 1,000 ft. from N and 500 ft. from W lines W. R. Smith Sur. A-547, Ellenburger test, lost circulation, T.D. 6,022 ft.

Montague County: Benson Bros. 1 Riley, 467 ft. from S and midway between E and W lines of farm C. Ellis Sur. A-1146, 7,500-ft. test, drilling 1,670 ft.

J. A. Chapman 1 Fowler, SE SE SE J. W. Massie Sur. A-463, prep. to drill below 5,200 ft.

Continental 1 Winder, 467 ft. from N and E lines S/40 of W/80 of N½ of Sec. 4, Limestone C.S.L. Sur., 7,200-ft. test, drilling 3,864 ft.

Young County: L. T. Burns 1 Jeffery, 1,400 ft. from N and E lines Sec. 47, T.E.&L. Sur., 5,500-ft. test, top Mississippi 4,881 ft., drilling 4,920 ft.

F. H. E. Co. and Fleming-Kimbell Corp. 1 Graham, SE cor. Sec. 2912, T.E.&L. Sur., drilled out cement 4,927 ft.

Tom B. Medders 1 Daws, 933 ft. from N, E, S and W lines of NW¼ T.E.&L. Sur., perf. casing 3,700-08 ft., recovered salt water, S.D. orders, 4,920 ft., T.D.

Panhandle Refg. 1 Allar Co. and G. H. Hunt, 467 ft. from N and E lines S½ Sec. 3409, T.E.&L. Sur., 3,750-ft. test, oil sand 2,706-08 ft., cored, received 3 ft. saturated sand.

Strawn Sand Shows Between Novice and Goldsboro Pools

FORT WORTH, Tex., Sept. 22.—The possibility of a Strawn sand pool between the Novice and Goldsboro pools of Coleman County was indicated this week at

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the Merry Brothers and Perini 1 C. M. Greer, Lot 2, H. Kegans Survey 250. The Gardner sand, from which the other two pools derive production, was found missing and the Strawn was topped at 3,909 ft. Cores recovered from 3,913-19 ft. and again from 3,919-37 ft. showed saturation. At the end of the week, operators were running an electrical survey and planning to set 5-in. casing on top of the section.

The test is 1½ miles south of production in the Goldsboro pool, on a block of approximately 4,000 acres, in which spreads have been taken by various companies.

Howsley-McCord Pool Given Short Spread

A short 600-ft. east extension of the Howsley-McCord pool of southern Throckmorton County was indicated this week at the Owenwood Pool 3 Well No. 13, center of the NE½, Comanche Indian Reserve Survey 28. At the same time the test promised the district one of its best producers by flowing 38 bbl. of oil in 12 hours through tubing.

Oil sand was drilled from 707 ft. to 725 ft., with no water, and operator estimated the sand to be 15 ft. thick. This would make the section one of the thickest in the north Throckmorton-north Shackelford County area. The test has been shut in because of lack of storage.

Jones County Extension Well Gaged

Flowing through ¼-in. choke on tubing, Jones & Stasney and Groover & Rose 1 A. J. Cannon, Section 81, De Witt C.S.L. Survey, rated a potential of 204 bbl of oil in 24 hours on official gage. The well extended the Stith pool of southern Jones County ¼ mile northwest.

Previously, the well had been treated with 1,000 gal. of acid in a lime known as the Cook section, which is a few feet lower than that found in the discovery well, Danciger 1 Kelso. Operator cemented 6-in. casing at 2,309½ ft., with saturation encountered to total depth of 2,327 ft.

Concho County Given Fourth Wildcat

Application for permission to drill a 5,000-ft. cable-tool wildcat in Concho County has been filed by W. J. Rutledge of Dallas. The test will be drilled as 1 Will Loveless, 3 miles south of Wellview and will be the fourth wildcat operation in the county. Location has been announced as 500 ft. from the south and west lines of Section 2, E. Anderson Survey 2, Abstract 1673, and is on a 5,000-acre block.

WEST CENTRAL TEXAS COMPLETIONS

Wildcats

Brown County: L. L. Ingram 1 Matlock & Menear, 2,000 ft. from E and 300 ft. from N lines of farm in E. Votan Sur. 224, dry at 1,100 ft.
Comanche County: Campbell & Haygood 1 Stark, Asa Hoxey Sur. A-423, junked and abandoned at 732 ft.
Hood County: J. M. Seaberry 1 Slocum Bros., N. Smith Sur., Pat. 1-924, A-512, dry at 673 ft.
Jones County: T. D. Humphrey 1 Triplett, James Goocher Sur. 199, dry at 2,560 ft.
Taylor County: Lewis Prod. 1 Huddleston, Lot 6, Grimes C.S.L. Sur. 124, 190 bbl. in 24 hr., 2,622-26 ft., extension completion.

Fields

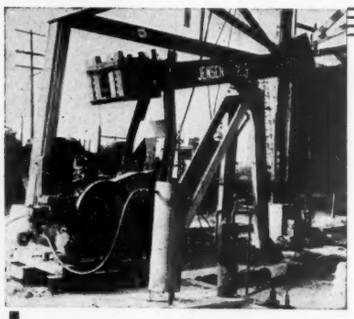
Hamby, Shackelford County: E. H. R. Sabens 3 Shotwell, Sec. 59, Blk. 4, T.&P. Sur., 40 bbl. in 24 hr., pumping, 1,602-08 ft.
Lewis, Jones County: Sandy Ridge Oil 4 McCreight, Sec. 5, Blk. 15, T.&P. Sur., 166 bbl. in 24 hr., 14/62-in. choke, 1,914-30 ft.
Fain-McGaha 6 Burns, Sec. 38, Blk. 15, T.&P. Sur., 99 bbl. in 24 hr., 10-qt. shot, 1,930-34 ft.
Noodle, Jones County: Humble 3 Sears, Sec. 37, Blk. 18, T.&P. Sur., dry at 3,093 ft.
Overall, Coleman County: Anzac Oil 21 Overall, Sec. 12, Blk. 1, G.H.&G. Sur., dry at 2,674 ft.

Miscellaneous Pools

Shackelford County: J. L. Hart 2 Clausell, Sec. 582, T.E.&L. Sur., dry at 540 ft.
Green & Haggerty 2 Elliott-B, Sec. 11, L.A.L. Sur., 5 bbl. in 24 hr., pumping, 831-34 ft.
J. F. Baker 5 Davies, Sec. 17, Blk. 14, T.&P. Sur., 50 bbl. in 24 hr., 20-qt. shot, 1,537-43 ft., T.D. 1,570 ft.

WEST CENTRAL TEXAS ACTIVE WILDCATS

Brown County: Mrs. L. C. Ort 1 McGhee, NE NE SE Sec. 49, H.T.&B. Sur., drilling 1,289 ft.
Callahan County: George McCamey 1 Windam, 660 ft. from S and 150 ft. from E lines Sec. 21, Victoria C.S.L. Sur., 1,500-ft. cable-tool test, drilling 935 ft.
Coleman County: Gant & Evans 1 Strickland, 200 ft. from N and 2,400 ft. from W lines of farm in Day Sur. 636, S.D. orders, 1,485 ft.
Merry Bros. & Perini 1 Greer, 1,283 ft. from S and 467 ft. from W lines Lot 2, H. Kegans Sur. 520, 4,000-ft. test, coring 3,788 ft.
States Oil Corp. 1 Hughes, 2,465 ft. from S and 2,335 ft. from W lines Sec. 34, Blk. 2, G.H.&H. Sur., 3,600-ft. rotary test, waiting on spudder, 3,566 ft.
West Coast Prod. Corp. 1 Norris, SW cor. of NE 160-ac., J. Greenwood Sur. 304, cleaning out.
Concho County: Floyd C. Dodson 1 Robert Wilson. Thos. Green Sur., 10 mi. SW Eden, S.D., repairs, 4,102 ft.
C. M. Joiner Leasing Corp. 1 Armor, 1,315 ft. from S and 330 ft. from W lines Sec. 105, Blk. 72, T.&N.O. Sur., old well drilled deeper, old T.D. 1,565 ft., drilling 2,860 ft.
Eastland County: Monark Oil & Gas 1 fee, 1,500 ft. from E and 1,800 ft. from N lines Sec. 44, Blk. 4, H.&T.C. Sur., 1,550-ft. cable-tool test, first report.
Stewart Oil 1 Shaeffer, 660 ft. from E and 1,980 ft. from S lines 394-ac. farm in Moses Allen Sur. 26, 3,500-ft. test, S.D. 1,405 ft.
Fisher County: Shell Oil 1 Vaughn, 467 ft. from N and 1,787 ft. from W lines Sec. 205, Blk. 21-V, H.&T.C. Sur., 7,250-ft. test, drilling 4,333 ft.
Jones County: T. J. Coyne 1 L. E. Clyburn, NW cor. tract in Lots 24 and 27, Holt subd. of Henry Millard Sur. 243, 2,000-ft. test, S.D. 2,210 ft.
Fain-McGaha, 330 ft. from E and 1,300 ft. from N lines NW¼ Sec. 26, Blk. 15, T.P. Sur., 2,500-ft. test, drilling 1,920 ft.
S. B. Roberts 1 Cooper, SE SE SW Sec. 20, Blk. 15, T.&P. Sur., fishing casing, T.D. 4,935 ft.
Roeser & Pendleton 1 Moore, 242 ft. from N and 330 ft. from E lines of 40-ac. farm in E part Sec. 33, Blk. 15, T.&P. Sur., 2,300-ft. cable-tool test, first report.
N. L. Snoddy 1 Huddleston, 2,150 ft. from S and 467 ft. from W lines farm in E part. Sec. 41, T.&P. Sur., Blk. 18, 3,000-ft. rotary test, rigging up spudder.
McCullock County: C. M. Joiner 1 S. A. Lawson 860 ft. from N and 550 ft. from E lines Valentine Hohman Sur. 1093, 2,000-ft. test, S.D. 810 ft.
Palo Pinto County: Hickok & Reynolds 3 Gauldin, 467 ft. from S and E lines Sec. 1756, T.E.&L. Sur., 4,250-ft. test, underreaming 8¾-in. casing from 1,930 ft., T.D. 2,120 ft.
Runnels County: A. J. Johnson 1 Fletcher, 785 ft. N and 237 ft. W of W cor. E. C. Goot Sur. 58½, but in E. W. Bull Sur. 333, old well drilling deeper, old T.D. 515 ft., S.D. 1,225 ft.
Shackelford County: L. L. Rector 1 Grimes, 150 ft. from S and W lines NW¼ Sec. 75, Blk. 12, T.&P. Sur., drilling 300 ft.
R. H. Roark 1 Elliott-B, SE SW Sec. 9, L.A.L. Sur., drilling 2,182 ft.
Somervell County: Plymouth Oil 1 Cousins, 456 ft. from SE and NE lines of tract in J. Echols Sur., 7,500-ft. test, drilling 4,880 ft.
Stephens County: T. S. Schroeder 1 Corbett, 2,200 ft. from E and 444 ft. from N lines Sec. 12, Blk. 3, S.P. Sur., drilling 3,835 ft., show oil 3,772-75 ft. and 3,801-10 ft.
T. G. Shaw 1 S. P. Stroud-B, 330 ft. from N and 660 ft. from E lines SW¼ Green Newton Sur. A-128.



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4,250-ft. test, P.B. to 3,065 ft., drilling plug, T.D. 4,500 ft.

Stonewall County: Shell 1-A Petterson, NE SW NW Sec. 357, Blk. D, H.&T.C. Sur., Ellenburger test, drilling 5,891 ft.

Taylor County: Deep Oil Dev. 1 Higgins, 330 ft. from N and E lines Lot 8, Sec. 3, Corley Sur., 2,850-ft. test, fishing 2,298 ft.

Ce-Beth Oil 1 City of Abilene, south shore of Lake Abilene of city property, S.D. 4,368 ft., orders.

Hedrick Oil 1 Arrant, 2,970 ft. from N and 330 ft. from W lines Sec. 53, Blk. 16, T.&P. Sur., 2,500-ft. test, drilling 955 ft.

Ungren & Frazier 1 Trinity University, 330 ft. from S and W lines E 32.7-ac. tract Lot 2, Grimes C.S.L. Sur. 148, 2,900-ft. test, drilling 152 ft.

Illinois Development Results In Consolidation of Pools

Recent developments in Illinois have resulted in the consolidation of several groups of closely located pools into single larger pools and continued development of some of the new fields indicates that several more such groups may be consolidated into single pools in the near future. During the past month 3 groups of pools were officially consolidated into single pools by the Illinois State Geological Survey. In Clay and Wayne counties, the Clay City, Enterprise and West Enterprise pools were combined and are now called Clay City Consolidated. In Jasper and Richland counties, the Dundas, West Liberty and Boos pools are now called Dundas Consolidated, while in White County the New Harmony, North New Harmony and East Calvin pools were labeled New Harmony Consolidated.

Other pools are approaching each other at a rate which may result in their consolidation by the end of the year are the Aden and North Aden pools of Wayne and Hamilton counties and the Griffin and Keensburg pools of Wabash County. Although the Griffin-Keensburg group includes the Keensburg, Griffin, North Griffin and South Griffin pools, development is such that the pools are practically continuous at the present time. The greater part of the Griffin pool production is in Indiana.

Gas-Oil Ratios in Turner Valley Improves

Gas-oil ratios in Turner Valley show some improvement on recent Alberta Conservation Board tests. In June the average ratio was 4,150 cu. ft. per bbl. which was decreased to 3,920 cut. ft. in July. The result is attributed to the redistribution of extra war emergency allowables to the wells most capable of crude production.

Abandonment of Empress Royalties 1, LSD 5, 2-20-3w5, at 8,787 ft. after getting the Madison at 8,675 ft. when water was struck in the upper zone has further defined the limits of the Turner Valley crude area. A little earlier Harris Royalties 3, LSD 6, 3-20-3w5, was similarly abandoned at 8,927 ft. owing to water in the upper zone, after getting the lime at 8,692 ft. These tests were on the west flank west of the North Central naphtha area. The westerly limits of the original west-flank crude area were defined some time ago when Okalta Oil 9 and Scottish Petroleum 1 encountered water at somewhat greater depth. The limits of the field to the east are marked by the gas-naphtha area.

Recent drilling to the north has resulted in some of the largest producers in the field and has shifted activity in that direction. The most northerly test to get the lime is Major Oils 2, LSD 12, 4-21-3w5, which finished at a normal drilling depth of 8,301 ft. The most northerly location is Major Oils 5, LSD 14, 35-21-3w5, more than 5 miles farther north; while Atlas-British Dominion 2, LSD 4, 17-21-3w5, some 1¼ miles north of Major 2, is logging normally, and indications are for a considerably northerly extension of crude production.

At one time it was considered that faulting encountered in wells in the south end of the field had limited the possibilities of extension in that direction. Brown Oil 6, LSD 15, 5-18-2w5, was abandoned at 4,517 ft. after faulting back to the Belly River at 3,040 ft. Since then Northwest-Hudson's Bay 6, LSD 6, 8-18-2w5, a half mile to the north, has proven the lime at 7,799 ft. and it is now believed Brown 6 would get the lime at practicable drilling depth and open a southerly extension of the field.

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Deep Oriskany Tests Extend Ravenswood Production

By STAFF CORRESPONDENT

PITTSBURGH, Pa., Sept. 22.—During the past week in lower eastern fields, 25 completions were reported of which 3 were dry, 20 gas wells, and 2 oil producers. In all districts there were fair gas wells, among which was the largest gasser in the wildcatting in Ravenswood district, Jackson County, West Virginia. Several of the deep tests are nearing their scheduled horizons, and one in West Virginia was abandoned when salt water was found in the Newburg sand.

Test on Kellersburg Anticline Near Pay

In Armstrong County the most important test of the Kellersburg anticline in West Franklin Township is nearing the pay. It is being drilled by the T. A. Phillips Gas & Oil Co. on the W. T. Biedenbach farm and is now at 5,872 ft. with the top of the Onondaga lime at 5,773 ft., and the chert at 5,791 ft. The surface elevation is 1,170 ft. The Oriskany sand is expected at about 5,907 ft.

On Chestnut Ridge in South Union Township, Fayette County, Peoples Natural Gas Co. has had three gas pays in the Onondaga chert at 6,604 ft., at 6,607 ft., and again at 6,612 ft. in 5 Piedmont Coal Co. The total gas gages 675,000 cu. ft. but a test of the casing found a leak and it is now being squeezed. Its

SUMMARY OF COMPLETIONS

Southwest Pennsylvania

	No.	Bbl.	Footage
Gas wells	9	*5.2	17,242
Dry holes	1	.....	3,375
Total	10	.....	20,617

West Virginia

	No.	Bbl.	Footage
Oil wells	2	40	3,572
Gas wells: Oriskany	3	*24.7	14,911
Others	8	*1.9	23,052
Dry holes	2	.....	3,477
Total	15	.....	45,012
Recompletions	2	2	.....

No. 4, same lease, topped the Tully lime at 6,756 ft. at which depth it will be cased or shortly below that depth. This well is running low on structure but as every well on this large structure is practically a wildcat due to formation, folds and faults and since no water has been found on the whole closure even far below the bottom of the Oriskany sand, this well is running a good chance.

On this anticline, Greensboro Gas Co. is drilling at about 6,000 ft. in the test on the Barton heirs lease. New Penn Development Co., William E. Snee et al are down 5,865 ft. in 1 Carothers, and 5,240 ft. in 1 Kirby. These operators are also spudding 4 Heyn (Summit Hotel).

On Laurel Ridge in Stewart Township, Fayette County, these operators have shut down the wildcat on the Gregg L. Neel farm at 8,498 ft., or 195 ft. below the top of the Oriskany sand which is bone dry. At that depth, the tools were lost and it is doubtful if drilling will be resumed. In Maryland these operators are making headway in the wildcat on the Humberson farm on the Accident dome in Garrett County with the tools at 6,950 ft., or a new depth after starting a new hole with casing suspended.

PENNSYLVANIA COMPLETIONS

Armstrong County

Kittanning Township: James Wright 1 Henry Wright, 1,565,000 cu. ft. gas, Fifth sand 1,816 ft., gas 1,817-21 ft., T.D. 1,825 ft., R.P. 585 lb.

Parks Township: Apollo 1 J. M. Riggle, 249,000 cu. ft. gas, sand 1,590-1,615 ft., gas 1,594-96 ft., T.D. 1,615 ft.

Clarion County

Porter Township: Pennsylvania Fuel Supply Co. 4 Charles George, 124,000 cu. ft. gas, Speechley sand, T.D. 2,612 ft.

Fayette County

Menallen Township: Greensboro 1 Jacob Harris, 153,000 cu. ft. gas, Fifth sand 2,357-2,426 ft., gas 2,360 ft., T.D. 2,556 ft.

Greene County

Monongahela Township: Donley & Lough 1 Mrs. Eli Boone, 1,212,000 cu. ft. gas, Injun sand 1,432 ft., gas 1,467-73 ft., R.P. 500 lb., T.D. 1,483 ft.

Donley & Lough 1 Vance heirs, 1,750,000 cu. ft. gas, Injun sand 1,418 ft., gas 1,433-40 ft., R.P. 500 lb., T.D. 1,458 ft.

Morris Township: Lewis Petit et al 1 A. T. Murray dry through Bayard sand, T.D. 3,375 ft.

Jefferson County

Beaver Township: T. W. Phillips 1 Michael Sowers, 75,000 cu. ft. gas, Tiona sand, T.D. 2,835 ft.

Washington County

West Bethlehem Township: Equitable Gas Co. 1 Hewitt heirs, 50,000 cu. ft. gas before shot from Fifty-foot sand, T.D. 2,858 ft.

DRILLING

Armstrong County

Boggs Township: J. K. Sharp & Co. 3 James Sefton, 1,440 ft.

T. W. Phillips 1 J. Slagle, 2,538 ft.

Peoples 1 R. McCauley, 130 ft.

Burrell Township: Charles Moesta 1 Robert Borts, 425 ft.

Cowanshannock Township: Watson et al 2 Theodore Smith, 1,060 ft.

East Franklin Township: John Wray et al 2 Camuel Montgomery, 250 ft.

Kiskiminitas Township: Apollo 1 Alex Brown, 717 ft.

C. W. Beecher 1 Henry Burkett, 730 ft.

Peoples 1 Lewis Kunkle, drilling deeper, 60,000 cu. ft. gas at 1,295-98 ft., fishing at 1,524 ft.

Kittanning Township: Pittsburgh Plate Glass Co. 1 Hardy Wright, 2,240 ft.

Shaw & Townsend 1 Heygart, 876 ft.

T. W. Phillips 2 M. J. Baker, rigging up.

Mahoning Township: Humphries, Stone et al 1 George Gould, 2,600 ft.

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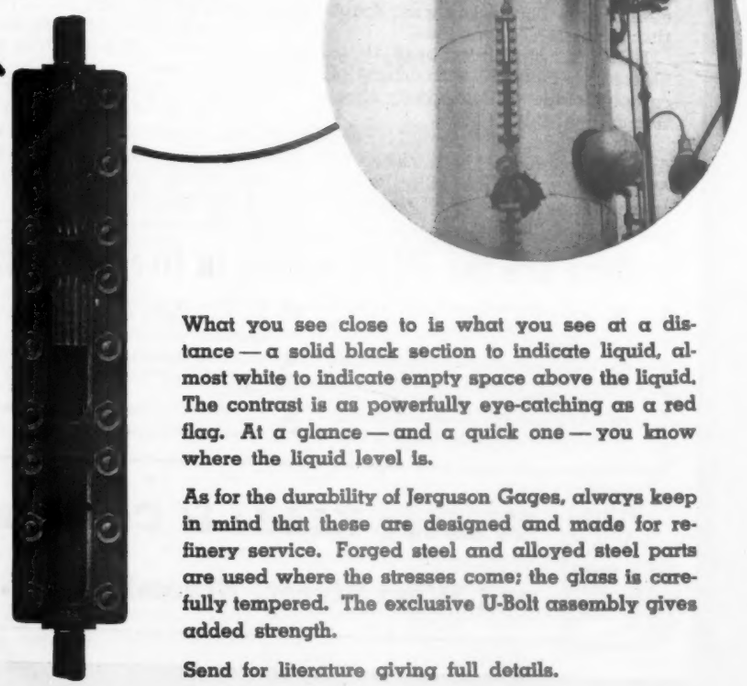

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Manor Township: Local Co. 1 H. S. Iseman, 1,255 ft.
John Wray et al 1 Claude Wray, 882 ft.
Parks Township: Apollo 1 Gladys Mining Co., 800 ft.
Apollo 1 Olive Lafferty, location.
Peoples 1 Katherine Kepple, 2,280 ft.
Plum Creek Township: Peoples 1 A. C. Leightner, building rig.
Shelocta 1 Clark Cribbs, rig.
T. W. Phillips 2 J. P. Dunmire, 2,385 ft.
South Buffalo Township: Local Co. 1 J. R. Hill, 270 ft.
T. W. Phillips 1 F. Beale, 403 ft.

Clarion County

Clarion Township: Jefferson Elk Gas Co. 1 J. E. Reinsel, 964 ft.
Limestone Township: Owens Illinois Glass Co. 1 C. W. McClure, 1,950 ft.
Owens Illinois Glass Co. 1 H. C. Morre, 2,550 ft.
T. Swartsfager 1 B. J. Reinsel, 75 ft.
Monroe Township: Frank Shreffler et al 1 Harry McCall, 530 ft.
Porter Township: Squirrel Hill Gas Co. 4 Charles Fagley, 970 ft., carrying 20,000 cu. ft. gas.
Hanley & Bird 2 J. C. Wilson, 150 ft.

Fayette County

Menallen Township: Greensboro Gas Co. 3 Carl M. Biddle, 2,375 ft.
Nicholson Township: H. C. Scott et al 1 St. Francis Church, 1,278 ft.
Duquesne 1 J. S. Cross, 1,030 ft.
Greensboro Gas Co. 1 Alfred Cincy, 1,400 ft.
Lingle & Upperman 1 Shroyer Bros., 870 ft.
Wesly Moffitt et al 1 Republic Collieries, S.D. 650 ft.

Greene County

Center Township: Morgan Henderson, agent, 5 J. L. Metz, 1,500 ft.
Manufacturers 1 Velma M. Carpenter, rig standing.
Cumberland Township: Brummage et al 1 C. and L. Hathaway, gas sand 1,112-52 ft., 100,000 cu. ft. gas 1,133 ft., drilling 1,376 ft.
Gilmore Township: Manufacturers 1 J. P. Eakin, 2,140 ft.
Jackson Township: Manufacturers 2 Mary E. Smith, 1,780 ft.
Manufacturers 3 Thomas Wood, 360 ft.
Jefferson Township: J. B. Myers et al 1 Milliken Bayard sand 3,210-42 ft., gas gaging 80,000 cu. ft. at 3,211 ft., drilling 3,300 ft.
Monongahela Township: D. E. Mayne et al 1 Isaac Wood, 960 ft.
Judson Bell et al 2 Samuel Black, rigging up.
Morris Township: Manufacturers 1 John B. Carter, 650 ft.
Carnegie 2 R. R. Baldwin, Gantz sand 2,886-2,911 ft., show gas 2,891-92 ft., Fifty-foot sand 2,914 ft., drilling 2,951 ft.
Richhill Township: Manufacturers 1 Henry Dinsmore, Freeport coal 1,143-47 ft., gas gaging 189,000 cu. ft. 1,144 ft., drilling 1,148 ft.
Wayne Township: Manufacturers 1 Walter Brewer, 2,325 ft.
Manufacturers 2 Halsie Tustin, 2,150 ft.
Manufacturers 3 Halsie Tustin, 2,010 ft.

Indiana County

Armstrong Township: Peoples 1 William D. Anderson, 2,794 ft.

Jefferson County

Beaver Township: T. W. Phillips 1 Roland Plyler, 747 ft.
T. W. Phillips 1 G. W. Plyler, 1,275 ft.
T. W. Phillips 2 Huelet E. Smith, 75 ft.

Washington County

Amwell Township: Bungard et al 1 Manson & Sanders, 540 ft.
Donegal Township: Manufacturers 1 Sarah De la France, 2,711 ft.
Morris Township: Union Gasoline & Oil 1 F. B. Grimes, 1,320 ft.
North Strabane Township: Peoples 1 Wallace Hamilton, Fifth sand 2,614-48 ft., gas 2,632 ft., gage 130,000 cu. ft. gas, drilling 2,940 ft.
South Franklin Township: Carnegie 4 Taylor heirs, fishing 110 ft.
Foley & Williams 1 J. J. Clark, spudding.

Westmoreland County

Allegheny Township: Apollo 1 Chovanes, rigging up.
Bell Township: Apollo 1 William Masters, fishing bit 120 ft.
Peoples 1 Westmoreland Mining Co., 500 ft.
Peoples 1 Wilda J. Sparber, building rig.

Oriskany and Newburg Dry in Elk-Poca West Edge Outpost

On the west edge of the Elk-Poca gas field in Kanawha County, about 3½ miles west of Sissonville, Godfrey L. Cabot, Inc., found the Oriskany unproductive with a show of only about 4,000 cu. ft. of gas. Here, the Corniferous lime was at 5,129 ft. and Oriskany topped at 5,220 ft. It was drilled down and reached the Newburg horizon at 5,981 ft. At 5,982 ft. salt water intruded filling up the 7-in. casing 1,500 ft. in 11 hours. It will be plugged and abandoned.

Best Well in New Ravenswood Pool Completed

In the wildcatting in Ravenswood district, Jackson County, a large well was completed which appears to be the best of the new pool. About 2½ miles due south of Odaville and 1½ miles southeast of Sandyville, Spartan Gas Co. completed the test on the W. S. Burdette farm with a final gage of 18,836,000 cu. ft. of

(Continued on Page 103)

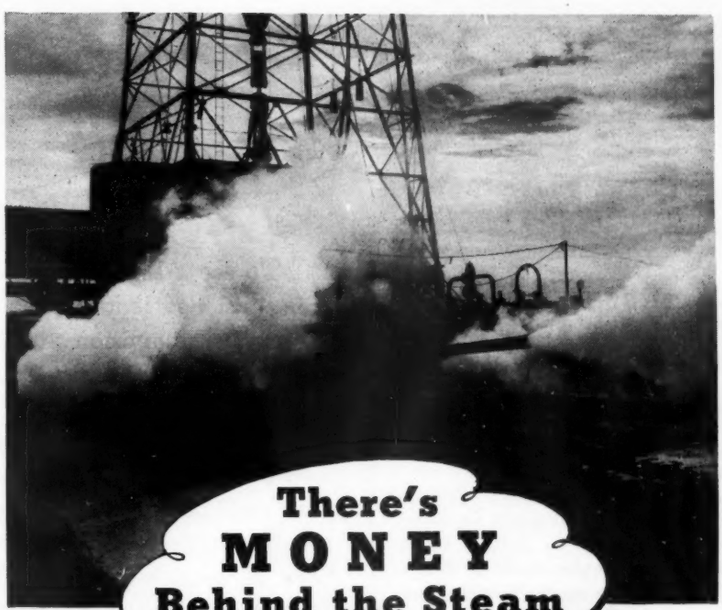
Illinois Fields

(Continued from Page 76)

Patoka, East, Marion County: Highland Oil 4 Thalman, NE SW NW 35-4s-1e, pumped 80 bbl., Cypress 1,309 ft., shot, T.D. 1,364 ft.
Phillipstown, White County: Phillips 5 Greer, NE SE SE 35-4s-10e, dry, Fredonia 2,983 ft., T.D. 3,101 ft.
Roland, White County: Carter 5 W. W. Fuller, SE NE NW 11-7s-8e, dry, Ste. Genevieve 2,917 ft., St. Louis 3,031 ft., T.D. 3,035 ft.
Tide Water 5 Baker, SE SE SE 11-7s-8e, pumped 50 bbl., Benoist 2,731 ft., shot, T.D. 2,756 ft.
Rural Hill, Hamilton County: Texas 2 Lockwood, SW NE NE 14-6s-53, swabbed and flowed 590 bbl. Aux Vases 3,190 ft., shot, T.D. 3,233 ft.
Texas 1 M. Lockwood, SE NE NE 14-6s-5e, flowed 682 bbl., McClosky 3,180 ft., shot, T.D. 3,200 ft.
Kingwood 3 Johnson, SE SE NE 14-6s-5e, flowed 211 bbl., McClosky 3,144 ft., shot, T.D. 3,169 ft.
Kingwood 1 Hatcher, NW NW NE 14-6s-5e, dry, McClosky 3,344 ft., St. Louis 3,440 ft., T.D. 3,453 ft.
Sailor Springs, Clay County: C. Robinson 10 Tolliver, SE NW SE 26-4n-7e, pumped 150 bbl., Tar Springs 2,320 ft., shot, T.D. 2,374 ft.
Salem, Marion County: Texas 8-B Maxwell, SE NE SE 30-2n-2e, pumped 150 bbl., Trenton 4,510 ft., pay 4,540-60 ft., Plattin 4,620 ft., T.D. 4,638 ft.
Ohio 20 Young, NE NE NW 29-2n-2e, flowed 275 bbl., Trenton 4,501 ft., acid, T.D. 4,620 ft.
Magnolia 8 Young, NE NW SW 21-2n-2e, pumped 103 bbl., deepened from 1,818 ft. to 1,870 ft.
Walpole, Hamilton County: Texas 1 Bond, E½ NW NE 31-6s-6e, pumped 34 bbl., Aux Vases 3,070 ft., shot, T.D. 3,120 ft.
Woodlawn, Jefferson County: Kingwood 8 Bank of Woodlawn, NE SW NW 35-2s-13, pumped 300 bbl. Benoist 1,986 ft., shot, T.D. 2,002 ft.
Magnolia 4 J. Eubanks, NE SE SE 35-2s-13, pumped 612 bbl., Benoist 1,955 ft., shot, T.D. 1,989 ft.
Magnolia 8 T. Shirley, NE NE SE 35-2s-1e, pumped 456 bbl., Benoist 1,979 ft., shot, T.D. 1,961 ft.
Potter 2 McMillan, SW NW SW 35-2s-1e, pumped 175 bbl., Benoist 1,987 ft., shot, T.D. 2,000 ft.
Yingling 1 W. McMillen, SW NW SW 36-2s-1e, pumped 500 bbl., Benoist 1,966-84 ft.
Yingling 2 W. McMillen, SW NW SW 36-2s-1e, pumped 460 bbl., Benoist 1,961-84 ft., shot, T.D. 1,984 ft.
E. A. Obering 2 Burkhardt, SE NE NE 35-2s-1e. dry, Aux Vases 2,054 ft., T.D. 2,059 ft.
Magnolia 6 J. Eubanks, SW NW NW 1-3s-1e, pumped 336 bbl., Benoist 1,903 ft., shot, T.D. 1,945 ft.
Frazier 3 Luchsinger, NE SW NW 3-1s-2e, pumped 76 bbl., Benoist 1,974-84 ft.
Frazier 1 Luchsinger, E½ SE NW 3-1s-2e, pumped 8 bbl., Benoist 1,958 ft. T.D. 2,008 ft.
Texas 5 Walker, NE SW NE 2-3s-1e, pumped 362 bbl., Benoist 1,920-47 ft., shot, T.D. 1,951 ft.
McBride 1 Hoffa, NW NE NE 2-3s-1e, pumped 328 bbl., Benoist 1,909 ft., shot, T.D. 1,945 ft.
Bell Bros. 1 C. Osborn, SE SE NE 25-2s-4e, dry, McClosky 3,117-35 ft.
Magnolia 8 Shirley, NW SE NE 35-2s-1e, pumped 424 bbl., Benoist 1,979 ft., shot, T.D. 1,993 ft.
Self 2 Zinke, SE SW NW 35-2s-1e, pumped 250 bbl., Benoist 1,973-77 ft.

ILLINOIS DRILLING REPORT

Adams County: O. A. Reed 1 Phillips, SE NE SE 19-2s-6w, S.D. 400 ft.



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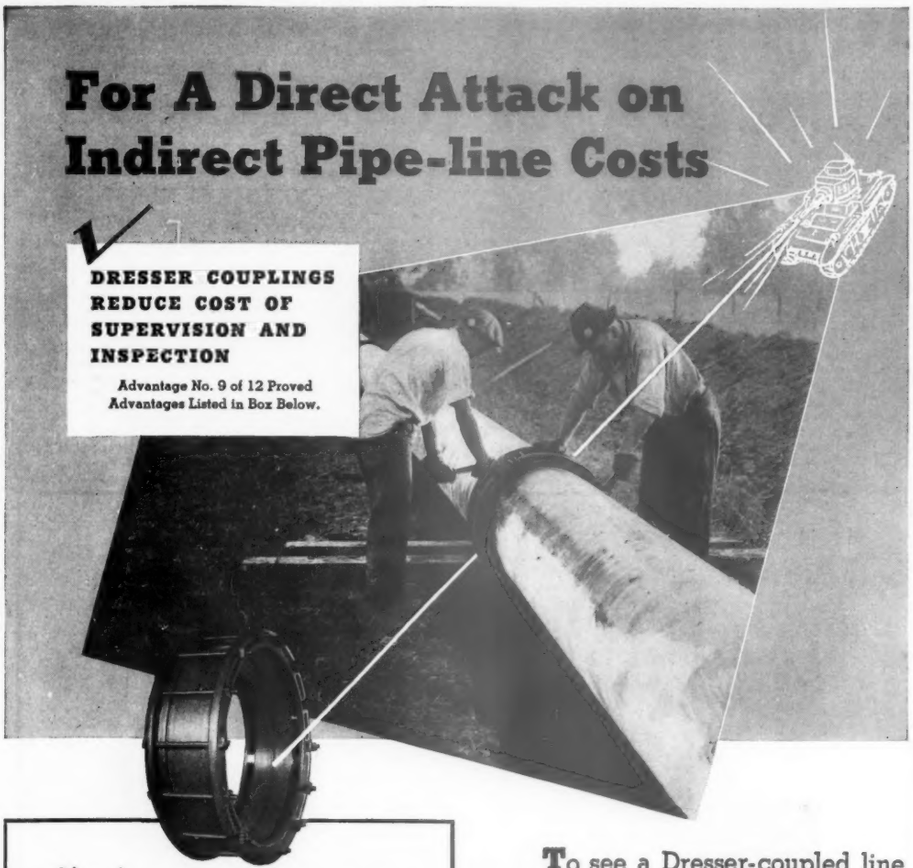

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Bond County: Republic 1 Mitchell, SW SE SE 28-6n-3w, rigging up standard tools.

Cass County: C. J. Brown 1 Stribling, SW SE SW 9-17n-8w, S.D. 501 ft.

Champaign County: Barber & Sievers 1 Lindsey, NW SE 20-20n-8e, old well deepening, drilling 1,220 ft.
C. Robinson 1 Springer, NW NW SW 18-22n-8e, drilling 770 ft.

Clay County: B. F. Williams 2 Keek, SE NE SW 35-4n-7e, first report, surface casing.
C. Robinson 1 Ditter, SW NW SW 18-4n-8e, drilling 2,914 ft.
Rockhill 1 Duff, NW SW SW 20-3n-8e, T.D. 2,896 ft., reamed casing 2,681-93 ft., 300 ft. oil in hole, put on pump.
Williams 1 Schnantz, NW NE SW 35-4n-7e, 2 bailers water and 2 gal. oil per hr. at 2,616 ft., to P.B.
Scott 1 Rogers, NE NW NW 36-4n-7e, elev. 435 ft., pumped 300 bbl. oil and 20 bbl. water, testing.
C. Robinson 1 Coggan, SW cor. 17-4n-8e, perforated and swabbed oil and water 2,996-3,000 ft., swabbed oil and water 3,005-12 ft., to squeeze.

Clinton County: Lilly & Hutchings 1 Shepperd, SW SW NW 25-3n-2w, first report, drilling 810 ft.
P. Doran et al 1 Kell, SW SW NW 36-3n-2w, S.D. 1,245 ft.
Homley et al 1 Walthes, NW SW SE 6-1s-5w, S.D. 220 ft.

Coles County: W. Thomas 2 Taylor, E½ SW NE 33 14w-10e, cleaning out 245 ft.

Crawford County: Page 1 Dennis, NE SE SW 2-6n-13w, S.D. 400 ft.

Cumberland County: Joe Hassett 1 Travis, NW NW SW 21-9n-10e, S.D. 310 ft.

Douglas County: Illinois-Mid-Continent 1 Braggs, NE NW NE 33-16n-9e, fishing 120 ft.

Edgar County: Leonard 1 Baker, NW cor. 19-15n-13w, spud.

Effingham County: A. J. Hammer 1 Birch, NW cor. 34-6n-5e, S.D. 2,461 ft., to test Aux Vases.

Elm County: Texas 1 Gray, S½ NW SE 35-3n-2w, hole full of oil and water, 3,619 ft., cleaning out.

Fayette County: Longarden 2 Braasch, NE NE SW 1-5n-2e, filled 1,500 ft. water, T.D. 1,815 ft., P.B. 1,805 ft.
Luttrell 1 Ford, NE NE NW 31-5n-3e, drilled plug, swabbed 1½ bbl. oil and 3½ bbl. water, put on pump.
Turner Drlg. 1 Williams, SW SW NW 6-6n-2e, fishing 1,898 ft.
Interstate Oil 1 Morgan, NW cor. 36-9n-1w, drilling 2,100 ft.

Franklin County: Eason Oil 1 Fuel, NE SW SE 25-5s-4e, first report, location.
Daly 1 Collins, NE NE SW 34-7s-2e, first report, location.
F. McQuigg 1 Old Ben Coal, NE SE NW 5-6s-2e moving in rotary.

Gallatin County: P. A. Murrelle 1 Fitzgibbons, SW SW SW 24-10s-9e, drilling 1,545 ft.
Delta Drilling 1 Minier, NE NE NW 28-8s-9e, perforated 2,894-2,900 ft., 600 ft. oil in 2 hr., cleaning out.
N. V. Duncan 1 Green, SE cor. 35-7s-9e, Aux Vases 2,868 ft., show oil, Ste. Genevieve 2,873 ft., S.D. 3,042 ft.

Hamilton County: Smokey Oil 1 Cluck, NE SW SW 19-6s-6e, drilling 2,136 ft.
Politis et al 1 Mayberry, NE NW NE 13-6s-6e, drilling 3,089 ft.

Jackson County: Charles Mercer et al 1 Williams, NE cor. 9-8s-1w, T.D. 2,300 ft.
W. E. Skeels et al 1 Williams, NE NE SW 33-7s-1w drilling 2,120 ft.

Jasper County: W. Kruhn 1 Wade, S½ SW NW 5-5n-14w, first report, pits.
Sinclair 1 Freeman, E½ NW SW 15-6n-9e, first report, rigging up rotary.
Texas 1 Hines, SW SW NE 7-6n-10e, first report, location.
Pure 1 Kessler A, E½ NE SW 15-6n-10e, good show oil 2,285 ft., Barlow 2,422 ft., Cypress 2,437 ft. show gas 2,736 ft., Rosiclare 2,752 ft., Fredonia 2,776 ft. show oil 2,802-94 ft., D.S.T. 2,765-2,833 ft., recovered 10 ft. oil and 65 ft. oily mud, T.D. 2,833 ft.

Jefferson County: Eason Oil 1 Gilbert, NW NW SE 16-3s-1e, first report, drilling 605 ft.
H. H. Blair et al 1 Smith, NW SE NW 11-3s-1e, first report, rig.
Nation 1-A Piper, NE NW NW 1-3s-1e, cleaning out 1,961 ft.

La Salle County: A. Hannah 1 Sage, NE SW NW 8-32n-2e, S.D. 445 ft.

Lawrence County: Midwest Develop. 1 All States Life Ins., SE SE NW 22-2n-11w, drilling 1,225 ft.
Stockes & Kieffer 1 Rogers, NW SE SW 17-2n-12w, S.D. 2,361 ft.
J. S. Young 1 Gerhart, S½ SE SE 20-4n-10w, location corrected, 5-in. 1,411 ft., drilling 1,526 ft.

Madison County: F. C. Kiskadden 1 Fischer, SE SW NE 27-5n-8w, fishing 1,940 ft.
Alch & Carroll 1 Rinkel, SE NE NW 33-5n-6w, underreaming 2,030 ft.

Marion County: C. C. Nye 1 Long, W½ NW NW 27-3n-4e, derrick.
Swan-King 1 Kotva, S½ SW NW 36-4n-2e, 20-qt. shot 2,086-2,106 ft., drilled out to 2,113 ft., testing.

McDonough County: C. B. Talbot 1 Powell, SE SE NE 29-4n-4w, S.D. 725 ft.

Pulaski County: R. G. Williams et al 1 Richey, NE SE SW 9-15s-1e, drilling 2,250 ft.

Saline County: Potter 1 Sutton, SE SE SW 28-8s-7e. drilling 2,075 ft.

St. Clair County: G. Morris 1-A Rasp, NW NW SW 32-2n-7w, drilling 2,063 ft.

Wabash County: W. O. Allen 1 Baird, SW SE 30-1n-13w, first report, moving in material.
Anderson & Fields 1 Higgins, NE NE NW 35-2n-14w, first report, drilling 2,153 ft.
Beane & Boyer 1 Price, NW NE SW 2-1n-12w, Bridgeport 1,120 ft., Waltersburg 1,425 ft., top sand 1,525-98 ft., T.D. 1,603 ft., P.B. 1,180 ft., put on pump.

Washington County: H. L. Whitaker 1 Garnholy, SW SE SW 24-1s-2w, first report, S.D. 203 ft.

Wayne County: Dirickson et al 1 Greer, N½ NW SE 24-1s-5e, rig.

White County: Sinclair 1 Smith, SE NW NW 24-4s-10e, cleaning out 2,700 ft.
Wall & Mitchell 1 Thatcher, NW NW SE 22-3s-10e, 1,500 gal. acid, put on pump.

Sand Hills Link Well Means Increase in Drilling

By D. H. STORMONT

MIDLAND, Tex., Sept. 22.—With the completion of Gulf 1-B Tubb, linking the Sand Hills Ordovician field with its extension area 4½ miles southwest, for a large daily potential, southwestern Crane County faces a marked increase in oil development. Located in Section 29, Block B-27, P.S.L. Survey, 1-B Tubb rated a potential of 6,905.52 bbl. of oil in 24 hours, flowing through tubing and casing. The rating was based on a flow of 1,653 bbl. in 6 hours with 1,151 bbl. made in the last 4 hours. Casing pressure dropped from 1,200 lb. at the beginning of the gage to 500 lb. but separator pressure remained constant at 125 lb. The test showed a gas volume of 42,126,000 cu. ft. daily to give a ratio of 6,103 to 1. The oil tested 42 gravity at 60°.

Production is from the Ellenburger lime at 5,640-60 ft. and followed an acid treatment of 5,000 gal. No. 1-B Tubb is slightly over 1 mile north of production in the extension area and is 3 miles south of production in the Sand Hills field.

At the end of the week the attention of operators in this section of the county was centered on a wildcat being drilled by Continental 1½ miles south of the Ordovician extension area opened by Gulf 17 Waddell. The test is the 1 Jones, 660 ft. from the northeast and northwest lines of Section 12, Block 3, H.&T.C. Survey. No. 1 Jones was drilling below 5,561 ft. in the Simpson shale and had not yet reached the Ellenburger lime.

The top of the Simpson was logged at 5,540 ft., the base of the Permian at 5,543 ft. and a core from that depth to 5,561 ft. recovered a 15-ft. section of detrital. The base of the Permian is reported 50 ft. higher structurally than Gulf 17 Waddell, completed for 1,242 bbl. of oil daily.

Crockett County Deep Todd Outpost Near Completion

Amerada 1-B Todd, which was reported at the first of the month indicating a 1-mile northwest extension to the Todd deep field of north central Crockett County, has been retreated with 6,000 gal. of acid to increase oil production.

It was first thought that 1-B Todd would open Ellenburger lime production for the field but production fell off steadily and operator plugged back to the base of the Strawn lime at 6,103 ft. The casing was perforated from 6,048-65 ft. and tubing raised to 6,027 ft.

During the week, a cement bridge was drilled out and a packer set on tubing. Following the acid treatment the test flowed and swabbed 143 bbl. of oil in 15 hours, flowing an estimated 9 bbl. hourly the last 5 hours of the test, through 20/64-in. choke on tubing.

Official gage was scheduled for the last of the week, but was postponed while derrick machinery was being torn out. No. 1-B Todd is located in the SW SW Section 26, Block WX, G.C.&S.F. Survey.

Wildcats Staked in Glasscock And Crockett Counties

Two miles southwest of Garden City in central Glasscock County Ed M. Wahlenmaier is planning to drill 1 Peebles & Bentz (Texas Land Trust). Location is 467 ft. out of the southwest corner of Section 15, Block 34, Township 4s, T.&P. Survey. The wildcat will be drilled to 3,500 ft. with cable-tools unless sulfur water or production is encountered at a shallower depth.

Location is in a block of approximately 4,400 acres and on a structure defined by subsurface geology. Drilling is scheduled to be under way early in October.

In western Crockett County, Moore Brothers have staked a 1,500-ft. wildcat test. It will be 1 Childers-Halff, 467 ft. from the south and 1,400 ft. from the easterly lines of Section 71½, Block GG, Oney Survey.

SUMMARY OF COMPLETIONS

Southern West Texas

	No.	Bbl.	Footage
Oil wells: Abell	2	2,983	10,777
Foster	2	963	8,673
Johnson	2	1,036	8,352
Keystone	4	940	13,676
Sand Hills Permian	3	3,358	14,935
Other fields	11	8,863	31,683
Wildcats	1	1,905	5,660
Total	25	.....	93,756
Recompletions	4	230	.....

Northern West Texas

	No.	Bbl.	Footage
Oil wells: Seminole	2	1,205	10,565
Slaughter	20	24,860	100,383
Wasson	3	2,485	11,865
Other fields	4	1,989	11,316
Dry holes: Fields	1	.....	5,289
Total	30	.....	139,418
Recompletions	1	148	.....

Texas Panhandle

	No.	Bbl.	Footage
Oil wells	22	4,758	63,624
Gas wells	2	*90.8	6,151
Total	24	.....	69,775

*Million cu. ft.

SOUTHERN WEST TEXAS COMPLETIONS

(24-hr. ratings based on last 3 hr. of 6-hr. gage)

Wildcats

Crane County: Gulf Oil 1-B Tubb, SW SW Sec. 28, Blk. B-27, P.S.L. Sur., elev. 2,462 ft., 1,905 bbl., 42,146,000 cu. ft. gas, 5,000 gal. acid, top Yates 1,330 ft., Ellenburger 5,604 ft., pay 5,640-60 ft.

Fields

Abell, Pecos County: Magnolia 2-B Markey, elev. 2,395 ft., 1,536 bbl., top Simpson 4,860 ft., Tulip Creek 5,035 ft., pay 5,380-90 ft.

Magnolia & Abell 1-A Myrick-State, elev. 2,393 ft., 1,447 bbl., ½-in. choke, 5,381-87 ft.

Abell, Permian, Pecos County: Stanolind 1 Smith, elev. 2,374 ft., 158 bbl., ½-in. choke, 2,000 gal. acid, 3,790-3,870 ft., P.B. from 3,900 ft.

Apco-Warner, Pecos County: Skelly Oil 2 Masterson, elev. 2,348 ft., 1,492 bbl., ½-in. choke, 9,500 gal. acid, 4,697-4,720 ft.

Church, Crane County: Gulf 1 Lassiter, elev. 2,567 ft., old well drilled deeper, old T.D. 3,096 ft., 146 bbl. oil and 9 bbl. water, 1,100-qt. shot, 2,991-3,205 ft., T.D. 3,215 ft.

Cowden, Winkler County: C. V. Lyman 1 Johnson-Cowden, elev. 2,819 ft., 408 bbl., 1-in. choke, 420-qt. shot, 2,815-2,980 ft., T.D. 2,987 ft.

Foster, Ector County: Broderick & Calvert 5 Bagley, elev. 2,954 ft., 781 bbl., 370-qt. shot, 4,315-47 ft., T.D. 4,350 ft.

Sinclair Prairie 6 Gist, elev. 2,973 ft., 182 bbl., 14 per cent water, 320-qt. shot, 4,189-4,271 ft., P.B. from 4,323 ft.

Johnson, Ector County: Schermerhorn 15-B Johnson, elev. 2,963 ft., 187 bbl., natural, 4,002-4,177 ft.

Sinclair Prairie 17-D Johnson, elev. 3,034 ft., 849 bbl., 390-qt. shot, 4,075-4,175 ft.

Keystone, Winkler County: Ralph Lowe 3 Zachary, elev. 2,880 ft., 274 bbl., 560-qt. shot, 3,162-3,347 ft.

Stanolind 45-12 Baird, elev. 2,935 ft., 159 bbl., 400-qt. shot, 3,304-3,438 ft.

S. W. Richardson 5 Keystone, elev. 2,978 ft., 287 bbl., 330-qt. shot, 3,379-3,482 ft., top Yates 2,487 ft., T.D. 3,491 ft.

Sam Weiner 9 Jenkins, elev. 2,974 ft., 220 bbl., 400-qt. shot, 3,270-3,400 ft.

McCamey, Upton County: Sinclair Prairie 1-C Lane, elev. 2,509 ft., old well drilled deeper, old T.D. 2,030 ft., 76 bbl. oil and 150 bbl. water, T.D. 2,100 ft.

Sinclair Prairie 2-C Lane, elev. 2,509 ft., old well drilled deeper, old T.D. 2,052 ft., 8 bbl. oil and 140 bbl. water, T.D. 2,100 ft.

H. C. Brazelle 1 Burleson, elev. 2,478 ft., old well drilled deeper, old T.D. 2,237 ft., dry at 2,260 ft.

McElroy, Upton County: Gulf 253 McElroy, elev. 2,636 ft., 195 bbl., 760-qt. shot, 2,725-2,867 ft., T.D. 2,907 ft.

Noelke, Crockett County: Mudge Oil 2-A Noelke, elev. 2,411 ft., 45 bbl. in 1 hr., 1,147-1,184 ft.

O'Brien, Ward County: Gulf 184 O'Brien, elev. 2,680 ft., 599 bbl., 310-qt. shot, 2,678-2,760 ft., T.D. 2,771 ft.

Sand Hills Permian, Crane County: Gulf 5-A Tubb, elev. 2,542 ft., 2,379 bbl. oil and 194 bbl. water, 5,000 gal. acid, top Ellenburger 5,747 ft., pay 5,752-65 ft.

Humble 60 Tubb, elev. 2,609 ft., 103 bbl., T.D. 4,600 ft.

Magnolia 6 Lea, elev. 2,643 ft., 876 bbl., ½-in. choke, 4,430-4,570 ft.

Sealy, Ward County: Magnolia 2-42 Sealy, elev. 2,657 ft., 714 bbl., ½-in. choke, perf. casing 2,919-24 ft., 250 gal. acid.

Tobarg, Pecos County: Stanolind 12-B Smith, elev. 2,347 ft., 98 bbl. oil and 1 bbl. water, pumping, 350-77 ft.

University, Ward County: Texas 3-C University, elev. 2,608 ft., 284 bbl., 1-in. choke, 60-qt. shot, 2,657-78 ft.

Waddell, Crane County: Gulf 29 Waddell, elev. 2,628 ft., 3,974 bbl., 5,000 gal. acid, 4,360-4,560 ft.

World, Crockett County: H. G. Eastham 2 Powell-Gulf, elev. 2,808 ft., 41 bbl., 12 per cent water, 570 gal. acid, 2,657-75 ft.

SOUTHERN WEST TEXAS ACTIVE WILDCATS

Brewster County: Chester Dewey 1 Decie, NE SE Sec. 39, Blk. A-2, G.H.&H. Sur., 3,000-ft. test, drilling 930 ft.

Crane County: Continental 1 E. B. Jones, 660 ft. from NE and NW lines Sec. 12, Blk. 3, H.&T.C. Sur., top Yates 1,380 ft., drilling 5,685 ft.

Gulf 1-B Tubb, SW SW Sec. 28, Blk. B-27, P.S.L. Sur., top Ellenburger 5,604 ft., plugging back.

Crockett County: Amerada 1-C Todd, SW SW Sec. 15, Blk. 10, G.C.&S.F. Sur., drilling 7,081 ft.

J. S. Pittman 1 Bouscaren, 467 ft. from N and W lines Sec. 29, Blk. HH, H.E.&W.T. Sur., 2,500-ft. test, drilling 500 ft., tight well.

Wilshire 1 Carter, 445 ft. from W and 1,267 ft. from S lines E 50 ac. of SW 100 ac. Sec. 27, Blk. GG, H.E.&W.T. Sur., running 7-in. casing at 1,192 ft.

Culberson County: John Wolfe 1 Wilson-Briggs, 2,316 ft. from N and 1,500 ft. from E lines Sec. 1, Blk. 112, W. N. Older Sur., fishing tools 425 ft.

Pecos County: J. L. Cooper 1 University, SE SE SE Sec. 13, Blk. 16, University Sur., first report.

Cardinal Oil 1-3 University, 1,715 ft. from N and 2,370 ft. from W lines Sec. 3, Blk. 17, University Sur., first report.

J. D. Lancaster 2-26 University, NE NE SE Sec. 26, Blk. 15, University Sur., 60-qt. shot 1,700-24 ft., 700 ft. fluid in hole after shot, cleaning out.

Reagan County: Amerada 1-RB University, NW NE Sec. 8, Blk. 48, University Land Sur., drilling 1,521 ft.

Amerada 1-RC University, SE NE Sec. 4, Blk. 48, University Sur., drilling 3,616 ft.

Tom Green County: B. C. Mann 1 Metcalfe, NW NW Sec. 672, W. Wochler Sur., 7,000-ft. test.

Upton County: Plymouth Oil 1 Alford, C Sec. 50, Blk. 12, P. B. Scott Sur., drilling 9,093 ft.

Ward County: Shell Oil 1 Sealy-Smith, NE NE SE Sec. 38, Blk. A, G.M.M.B.&A. Sur., Ordovician test, drilling 5,200 ft.

Winkler County: Magnolia 20 States-Walton, NW cor. Sec. 4, Blk. 3-B, P.S.L. Sur., set casing 8,338 ft.

Sam Weiner 1 Halley, NW NE Sec. 7, Blk. 11-B, P.S.L. Sur., shut in 3,023 ft.

Large Producer in Terry County Sector of Slaughter Field

Activity in this district this week was at a low ebb. No new tests were staked and one outpost was junked after tools were lost. In Terry County, George P. Livermore completed that county's largest producer in the tricounty Slaughter field.

The test was 4 Jacobson, Section 6, Block D-11, C.&M. Survey, which rated a daily potential of 2,219.2 bbl. of oil, based on flow of 544.3 bbl. in 6 hours through casing. At the same time 1 Jacobson extended the pool one location south. Operator had drilled to 5,042 ft., total depth in the lime pay, topping it at 5,008 ft. The well was treated with 15,000 gal. of acid.

Forest Development Corp. 1 G. C. Steart, a ¾-mile north outpost to the Howard-Glasscock field of Howard County, was junked at 1,547 ft. in sand after tools were lost. Location was 467 ft. from the north and 1,320 ft. from the west lines of Section 130, Block 29, W. & N. W. Survey.

At the end of the week, operator was busy rebuilding rotary derrick at Trinity Drilling Co. 1 Dan Auld, Lynn County wildcat 14 miles west of Tahoka. The derrick collapsed while pipe was being drawn from the hole. Sixteen strands of pipe were left hanging in the top of the hole. It was believed that numerous rains had softened the ground under one leg causing the derrick to give way.

No. 1 Auld was drilling at 4,900 ft. Location is in the NE SW Section 0, Block E, E.L. Survey.

In the same county, the George P. Livermore 1 Rice, northwest corner of Section 18, Block 11, E.L. Survey, is drilling below 6,311 ft. in hard lime.

NORTHERN WEST TEXAS COMPLETIONS

(24-hr. ratings based on last 3 hr. of 6-hr. gage)

Fields

Dodge-Denman, Howard County: Mid-Continent 3 Denman, elev. 2,760 ft., old well drilled deeper, old T.D. 2,815 ft., 148 bbl., 360-qt. shot, 2,750-2,846 ft., T.D. 2,860 ft.

Sinclair Prairie 74 Dodge, elev. 2,249 ft., 220 bbl., 660-qt. shot, 2,630-2,800 ft.

Emma, Andrews County: Adam & Bradley 4-A University, elev. 3,136 ft., 1,395 bbl., 3,000 gal. acid,

4,210-81 ft.
Seminole, Gaines County: Amerada 6 Coffey, elev. 3,368 ft., 278 bbl., ½-in. choke, 5,200-32 ft., P.B. from 5,265 ft.
Amerada 11 Turlin, elev. 3,388 ft., 927 bbl., ½-in. choke, 231-qt. shot, 5,146-5,300 ft.
Ohio Oil 6 Averitt, elev. 3,357 ft., dry at 5,289 ft., top Yates 3,280 ft.
Sharon, Scurry County: R. & Y. Oil 2 Burney, elev. 2,219 ft., 152 bbl., pumping, 1,086-qt. shot, 2,205-2,440 ft.
Sharon Ridge, Mitchell County: F. W. Merrick 3 Strain, elev. 2,266 ft., 222 bbl., 580-qt. shot, 1,656-1,795 ft.
Slaughter, Cochran County: Atlantic Refg. 27 Boyd, elev. 3,669 ft., 1,484 bbl., 2½-in. casing outlet, 10,000 gal. acid, 4,972-5,065 ft.
Cascade 5 Igoe-Smith, elev. 3,649 ft., 1,700 bbl., 12,000 gal. acid, 4,915-5,000 ft.
Devonian 11-B Duggan, elev. 3,673 ft., 739 bbl., 2½-in. casing outlet, 12,000 gal. acid, 5,021-67 ft.
George P. Livermore 8 Boyd, elev. 3,668 ft., 290 bbl., 10,000 gal. acid, 5,060-85 ft.
Magnolia 10 Woodley, elev. 3,669 ft., 923 bbl., 3-in. casing outlet, 10,500 gal. acid, 4,925-70 ft.
Slaughter, Hockley County: S. E. Cone 3 Hensley, elev. 3,597 ft., 889 bbl., 4,000 gal. acid, 4,859-4,963 ft.
Devonian Oil 5 Citizen's Natl. Bank, elev. 3,605 ft., 1,313 bbl., 13,000 gal. acid, 4,902-5,006 ft.
Honolulu Oil 10-B Mallett, elev. 3,606 ft., 1,559 bbl., 2½-in. casing outlet, 10,000 gal. acid, 4,953-5,035 ft.
Honolulu Oil 11-B Mallett, elev. 3,611 ft., 1,175 bbl., 2-in. casing outlet, 10,000 gal. acid, 4,955-5,034 ft.
Magnolia 9-D Mallett, elev. 3,605 ft., 988 bbl., 3-in. casing outlet, 10,500 gal. acid, 4,930-5,000 ft.
Magnolia 4-E Mallett, elev. 3,588 ft., 1,188 bbl., 3-in. casing outlet, 10,500 gal. acid, 4,960-5,015 ft.
Stanolind 21-A Slaughter, elev. 3,518 ft., 1,496 bbl., 10,000 gal. acid, 4,940-5,050 ft.
Texas 4-B Mallett, elev. 3,576 ft., 693 bbl., 2-in. casing outlet, 12,000 gal. acid, 4,945-5,000 ft.
Texas 5-B Mallett, elev. 3,578 ft., 1,198 bbl., 10,000 gal. acid, 4,950-5,005 ft.
Texas 6-B Mallett, elev. 3,571 ft., 588 bbl., 9,500 gal. acid, 4,940-95 ft.
Texas 12-E Mallett, elev. 3,619 ft., 1,107 bbl., 10,000 gal. acid, 5,005-40 ft.
Texas 24 Slaughter, elev. 3,552 ft., 509 bbl., 2 per cent water, 10,000 gal. acid, 4,970-5,015 ft.
T. P. Coal & Oil 2-B Mallett, elev. 3,606 ft., 1,235 bbl., 10,000 gal. acid, 4,943-5,028 ft.
Slaughter, Terry County: Gulf 9 Mallett, elev. 3,513 ft., 1,206 bbl., 10,000 gal. acid, 4,945-5,025 ft.
Honolulu Oil 10 Frazier, elev. 3,512 ft., 2,144 bbl., 2-in. casing outlet, 10,000 gal. acid, 4,915-85 ft.
Wasson, Gaines County: Amon G. Carter 5 Sharp, elev. 3,541 ft., 662 bbl., 1-in. choke, 6,000 gal. acid, 4,880-4,980 ft.
Wasson, Yoakum County: Argo Oil 8-C Comer, elev. 3,547 ft., 1,602 bbl., 11,500 gal. acid, 4,945-5,170 ft.
George P. Livermore 1 Abilene Christian, elev. 3,638 ft., 221 bbl., ⅝-in. choke, 10,000 gal. acid, 5,150-5,283 ft.

NORTHERN WEST TEXAS ACTIVE WILDCATS

Andrews County: Mascho Oil 1 Fisher, NE NE SE Sec. 16, Blk. 36-A, P.S.L. Sur., P.B. to 4,573 ft., 3,000 gal. acid, no results, retreated with 8,000 gal. acid, swabbed 2 bbl. per hr. for 6 hr., T.D. 4,604 ft.
Borden County: M. L. Richards 1 W. R. Dunn, SW NE Sec. 307, Blk. 97, H.&T.C. Sur., 3,200-ft. test, drilling below 2,741 ft.
Crosby County: George Callihan and C. L. Waggoner 1 E. M. Wahlenmier, 460 ft. from N and E lines, Sec. 3, Blk. E-15, Waxahachie Tap Sur., 3,200-ft. test, setting casing 470 ft., drilling 530 ft.
Dawson County: Ray Albaugh 1 Handley, SE SW Sec. 36, Blk. M, E.L. Sur., 5,250-ft. test, drilling below 1,600 ft.
Stanolind 2 Scanlin, SE SE Sec. 87, Blk. M, E. D. Sur., top Yates 2,900 ft., San Andres 4,510 ft., dry at 5,885 ft.
Gaines County: Amon G. Carter 4-D Wasson, NW SE Sec. 50, Blk. AX, P.S.L. Sur., P.B. to 7,100 ft., swabbing, T.D. 11,108 ft.
Likins & Hall 1 Jones, SW NW Sec. 13, Blk. A-7, P.S.L. Sur., 7,200-ft. test, first report.
Garza County: Ed McAdams 1 K. Stoker, C NE Sec. 942, Blk. 97, H.&T.C. Sur., 3,500-ft. test, waiting on casing, T.D. 2,865 ft.
Lynn County: Ross Sport 1 J. E. Rice, NW NW Sec. 18, Blk. 11, E. L. Sur., dry at 6,430 ft.
Trinity Drlg. Co. 1 Dan Auld, SE SE Sec. 10, Blk. E, E.L. Sur., drilling 4,740 ft., top Yates 3,060 ft.
Mitchell County: G. R. Anderson 1 Simpson, NE NE SE Sec. 65, Blk. 97, H.&T.C. Sur., drilling 1,606 ft.
Scurry County: Pearson & Silbert 1 Addison, SW SW SW Sec. 122, Blk. 25, H.&T.C. Sur., drilling 1,237 ft.
Yoakum County: Honolulu Oil 1-13 Wright, 467 ft. from N and W lines, Sec. 13, Blk. D, J. Gibson Sur., 5,500-ft. test, first report.
Shell 1 M. L. Hammer, SW SW SW Sec. 440, Blk. D, J. Gibson Sur., P.B. from 5,700 ft. to 5,351 ft., preparing to treat.

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TEXAS PANHANDLE

AMARILLO, Tex., Sept. 22.—In the Panhandle district last week 24 wells were officially completed, one more than the previous week. Of the 24 wells completed, 22 were for oil and 2 for gas, with none dry. The oil producers were given a daily potential of 4,758 bbl. Two of the completed wells rated an individual gage of over 500 bbl. In Hutchinson County the Huber Corp. 10 Weatherly flowed 562 bbl. in 24 hours and in the Taylor pool of Gray County the Taylor Oil 7 Taylor-B pumped 65 bbl. in 3 hours for an estimated 520 bbl. daily.

New locations in this district jumped to a total of 44, with the J. M. Huber Co. taking out permits for 14 new tests and the Stanolind Oil & Gas Co., 8. All of Stanolind's eight new locations were in the Stinnett pool of Hutchinson County.

TEXAS PANHANDLE COMPLETIONS
(24-hr. gage)

Carson County

Texas Co. 17 Cooper, 6-9, I.&G.N. Sur., pumped 52 bbl. at 3,222 ft.

Gray County

Bell Oil & Gas 3 Webb-D, 61-25, H.&G.N. Sur., pumped 59 bbl.
Magnolia 48 fee (227), 14-3, I.&G.N. Sur., pumped 186 bbl.
Moran Drilling Co. 5 Davidson, 65-B2, H.&G.N. Sur., pumped 109 bbl. at 3,128 ft.
Phillips 1 Tay, 24-B2, H.&G.N. Sur., 171 bbl. at 2990 ft.
Skelly 1 F. Lovett, 36-B2, H.&G.N. Sur., flowed 289 bbl. through tubing at 2,949 ft.
Skelly 133 Schaffer, 189-3, I.&G.N. Sur., pumped 341 bbl. at 3,271 ft.
Stanolind 1 Lovett, 36-B2, H.&G.N. Sur., pumped 370 bbl. at 3,035 ft.
Taylor Oil Co. 7 Taylor-B, 24-B2, H.&G.N. Sur., pumped 65 bbl. in 3 hr. at 2,895 ft.
Taylor Oil Co. 10 Taylor-B, 24-B2, H.&G.N. Sur., pumped 54 bbl. at 2,933 ft.
Texas 9 Brown 137-3, I.&G.N. Sur., pumped 260 bbl. at 3,270 ft.
Texas 11 Chapman-A, 50-A9, H.&G.N. Sur., pumped 161 bbl. at 2,820 ft.
Texas Co. 4 Gethings, 47-A9, H.&G.N. Sur., pumped 281 bbl. at 2,876 ft.
Texas 4 Jackson, 58-B2, H.&G.N. Sur., pumped 44 bbl. at 3,090 ft.
Texas 11 Short, 2-1, H.&G.N. Sur., pumped 24 bbl. at 2,970 ft.

Hutchinson County

Huber Corp. 10 Weatherby, 25-Y, A.&B. Sur., flowed 562 bbl. on gas lift at 3,065 ft.
Phillips 74 Cockrell, 3-M21, T.C.R.R. Sur., pumped 188 bbl. at 3,017 ft.
Phillips 80 Cockrell, 6-M21, T.C.R.R. Sur., pumped 159 bbl. at 2,875 ft.
Shell 31 Harvey Sisters, 14-M21, T.C.R.R. Sur., pumped 376 bbl. at 3,082 ft.
Stanolind 24 Haile-B, 5-M21, T.C.R.R. Sur., pumped 76 bbl. at 3,046 ft.
Texas 16 Garner-A, 20-M21, T.C.R.R. Sur., pumped 292 bbl. at 3,023 ft.
Texas 12 Moore, 21-M21, T.C.R.R. Sur., pumped 184 bbl. at 3,157 ft.

Moore County

Magnolia 8 Britain, 184-3T, T.&N.O. Sur., 82,000,000 cu. ft. gas on back pressure method, R.P. 332 lb. at 3,050 ft.
Texoma 18-M Coon, 148-44, H.&T.C. Sur., tested 8,800,000 cu. ft. of gas R.P. 387 lb. at 3,101 ft.

Prospective Pool Opener May Be Major Texana Extension

By NEIL WILLIAMS

HOUSTON, Tex., Sept. 22.—The recovery of pipeline oil on a drill-stem test in a wildcat 2 miles east of the Texana field, Jackson County, and scheduled production tests on three promising wildcats in Montgomery, Lavaca and Fort Bend counties marked up an interesting week of developments for the Texas Gulf Coast district.

The prospective pool opener in Jackson County is Moore & Ahern 1 Burdett, east of the Texana field in the I.&G.N. Survey 3. Slight showings of gas were logged in a broken section at 5,161-70 ft., while broken sand and shale showing oil was cored at 5,213-18 ft. A 10-minute drill-stem test through ¼-in. chokes on top and bottom of the testing tool, tested 48 lb. working pressure and the well started spraying oil after 2,000 ft. of drill stem had been pulled. Eight hundred feet of oil and 30 ft. of sand were recovered and the well is drilling ahead below 5,300 ft. in search for additional sands in the Frio formation. The sand section from which the well was tested is the Marginulina and it was encountered at approximately the same depth as Sinclair 1 Volkner, recently completed to open the first oil production in the Texana field. Just what relation 1 Burdett has with the Texana field cannot be determined at this time but it is unlikely that production of the two areas will be joined due to the faulted or graben condition which prevails around the discovery well of the Texana field. At any rate the showing of the well continues to place favorable light on the present wildcatting play, and is expected to result in additional exploration along a trend extending in an east-west direction from the Texana field. Additional light is expected to be revealed about the area with the drilling of Christie & Dunnam 1 Pickering in the P. Scott Survey, about midway between the Texana field and 1 Burdett. This well was spudded during the week and is now drilling just below the surface casing cemented at 601 ft.

Wilcox Well Awaits Casing for Test

Glenn H. McCarthy 1 Sayle, a Wilcox test located in the Magnolia area, Montgomery County, is scheduled to be tested when casing can be obtained for the test. This reflects the acute condition of pipe shortage, as completion of several wells in the district have been delayed for this reason. While casing is being obtained the well is drilling slowly ahead below 9,514 ft. An electrical log showed the top of the Wilcox at 8,220 ft., and the well showed for a gas-distillate producer 2 weeks ago when a drill-stem test at 8,448-74 ft. tested several hundred pounds working pressure and distillate-cut mud. In addition, side-wall cores at intervals from 8,960-9,215 ft., recovered sand with a slight odor and cut.

Lavaca County Wilcox Test Reports Shows

Interest in the Wilcox trend was heightened further as Shell Oil Co., Inc., prepared to test 1 McManus, located in the Brushy Creek area about 10 miles southeast of Yoakum in Lavaca County. This well has been drilled extremely tight and the only information available is that the well is bottomed at 10,992 ft. where 5½-in. casing was cemented. Unconfirmed reports are that the Wilcox section was topped below 7,500 ft., and that several sands in the section carried oil and gas shows. Geographically the well is situated north of the Thomaston field in De Witt County, and northwest of the Provident City field in the southeast part of the county.

Needville Well to Be Tested In Frio and Marginulina

South of the town of Needville, Fort Bend County, W. L. Goldston 1 Coyle, located in the H.&T.C. Survey 39 which showed for a gas-distillate producer the previous week is bottomed at 6,463 ft., and casing will be cemented for a production test of the Marginulina and Frio sands at 4,985-5,023 ft. and 5,170-80 ft. where drill-stem testing the previous week showed favorable results. Several sands were cored below 5,400 ft. but all carried salt water.

Clodine Extension Probable

In the same county, and located in the Clodine field, Providence Oil Co. 1-A Wing is expected to extend production several hundred feet as the well is testing through perforated casing at 7,496-75 ft. The Discorbis Yeguaenis was topped at 7,249 ft., Eponides Yeguaensis at 7,328 ft., and the sand section at 7,485-7,526 ft.

Location for another Wilcox test was announced for Tyler County as Republic Production Co. prepared to move in material for 1 fee, located about 4 miles southeast of Spurger in the E. Hare Survey. Projected depth is 7,700 ft.

TEXAS GULF COAST DISTRICT COMPLETIONS

Wildcat

Tyler County: Navarro 1 J. B. Reid, dry, T.D. 7,711 ft.

Fields

Anahuac, Chambers County: Humble 9 E. W. Boyt, 460 bbl., ¼-in. choke, sand 7,090-7,127 ft.

Chocolate Bayou, Brazoria County: Glenn McCarthy 1 Triangle Development Co., 174 bbl., ¼-in. choke, perf. casing 9,658-80 ft., T.D. 11,209 ft.

Clay Creek, Washington County: Sun 2-D Louter, dry, T.D. 2,507 ft.

Dickinson, Galveston County: Pan American 1-E Kohfoldt, 170 bbl., ¼-in. choke, T.D. 8,377 ft.

Dyersdale, Harris County: Jack Frazier 1 Miller, 243 bbl., ¼-in. choke, perf. casing 4,049-64 ft., T.D. 4,068 ft.

Jack Frazier 2 Roemer-Modglin, 215 bbl., ¼-in. choke, perf. casing 4,059-73 ft., T.D. 4,080 ft.

Traders Oil Co. 1 McDade, dry, T.D. 4,250 ft.

Fannett, Jefferson County: Gulf 8-E Marrs McLean, 90 bbl., ¼-in. choke, perf. casing 8,306-09 ft., T.D. 8,534 ft.

Joe's Lake, Tyler County: Republic 52 fee, 340 bbl., ¼-in. choke, perf. casing 7,629-72 ft., T.D. 10,625 ft.

League City, Galveston County: Phillips 6 Stewart Title Guaranty Co., dry, T.D. 9,311 ft.

Lockridge, Brazoria County: H. E. Williams 1 Robinson, dry, T.D. 6,506 ft.

Lolita, Jackson County: Circle 2 Walker, 100 bbl., ¼-in. choke, perf. casing 5,290-96 ft., T.D. 5,300 ft.

Magnolia 4 Four Way Ranch, 232 bbl., 9/64-in. choke, sand 5,946-48 ft.

Wellington 6 L. Ranch, 140 bbl., ¼-in. choke, perf. casing 6,396-99 ft., T.D. 6,400 ft.

Magnet, Wharton County: Humble 39 H. C. Cockburn, 19 bbl., ¼-in. choke, sand 5,539-41 ft.

Martha, Liberty County: Stanolind 6-C Seaberg, 59 bbl. 12 hr., ⅛-in. choke, perf. casing 8,205-14 ft., T.D. 8,241 ft.

Maurbro, Jackson County: Humble 2 Strauss, 288 bbl., ¼-in. choke, sand 5,214-23 ft.

Oyster Bayou, Chambers County: Sun 5 Jackson, 797 bbl., ¼-in. choke, T.D. 8,290 ft., P.B. 8,287 ft.

West Ganado, Jackson County: Pure 1 Joe Havran, temporarily abandoned, T.D. 6,621 ft.

West Ranch, Jackson County: J. A. Campbell 1 J. M. Bennett, dry, T.D. 6,025 ft.

Humble 2 Vanderbilt-State, 360 bbl., ¼-in. choke, perf. casing 5,550-58 ft., T.D. 6,438 ft.

Magnolia 186-A West ranch, 210 bbl., ¼-in. choke, perf. casing 5,759-64 ft., T.D. 5,765 ft.

Magnolia 191-A West ranch, 204 bbl., ¼-in. choke, perf. casing 5,557-67 ft., T.D. 5,568 ft.

Magnolia 192-A West ranch, 103 bbl., 7/64-in. choke, perf. casing 5,770-76 ft., T.D. 6,115 ft.

Magnolia 193-A West ranch, 136 bbl., 7/64-in. choke, perf. casing 5,114-19 ft., T.D. 5,120 ft.

Withers, Wharton County: E. W. Mechaux 4-A Pierce, 150 bbl., 5/32-in. choke, perf. casing 5,359-66 ft., T.D. 5,388 ft.

Texas 100-C Pierce, 112 bbl., ⅛-in. choke, perf. casing 5,314-25 ft., T.D. 5,380 ft.

Texas 3-B A. C. Thompson, 27 bbl. oil plus 5 per cent salt water, 5/64-in. choke, T.D. 5,546 ft.

SUMMARY OF COMPLETIONS

	No.	Bbl.	Footage
Oil wells: Lolita	3	562	17,648
West Ranch	5	1,013	29,006
Other fields	14	3,144	97,629
Dry holes: Fields	6		35,220
Wildcats	1		7,711
Total	29		187,214

TEXAS GULF COAST DRILLING REPORT

Austin County: Woodley Petroleum Co. 1 E. Polschak, S. F. Austin Sur., drilling shale 1,635 ft.

Brazoria County: Humble 1 Colley, J. M. O'Donnell Sur., drilling shale 3,830 ft.

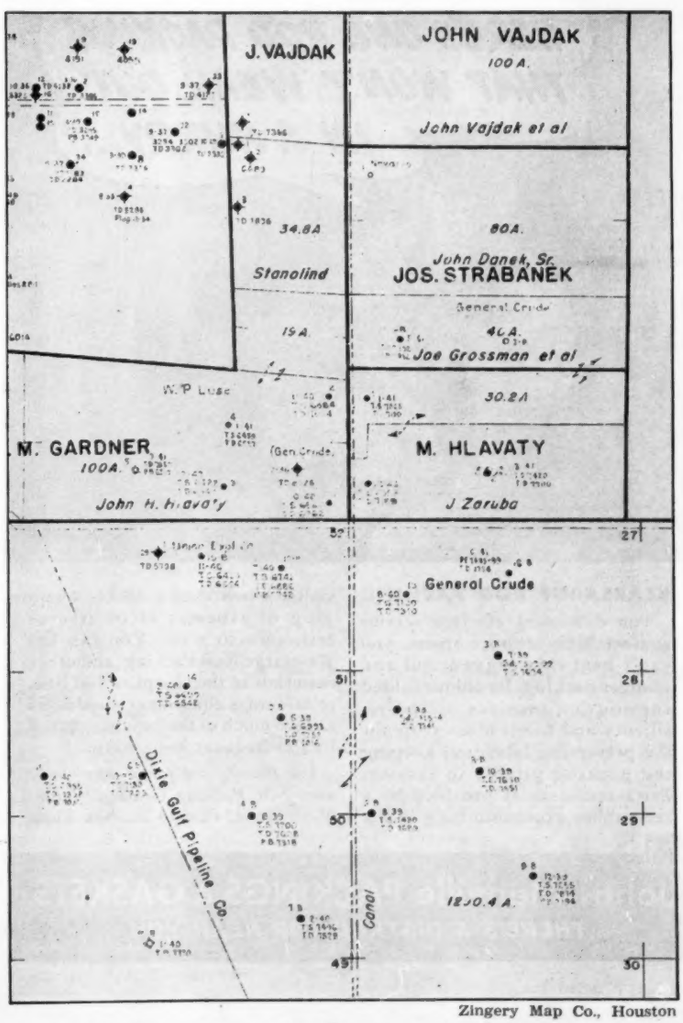
Skelly 1 Vieman, J. White Sur., drilling shale 7,000 ft.

Sterling Oil & Ref. Co. 1 Shanks, J. Brown Sur., drilling shale 7,025 ft.

Chambers County: Dick Schwab et al 1 Bethel Ferrell, J. Steel Sur., drilling shale 4,645 ft.

Colorado County: W. R. Davies, Inc. 3-A Brownston, Salvo Salise Sur., coring shale 10,307 ft.

(Continued on Page 107)



Zingery Map Co., Houston

A part of the Esperson dome, Liberty County, showing trend of recent development on east flank

MICHIGAN OPERATIONS

Production Trend Reversed By Big Wells at Reed City

By OTTO C. PRESSPRICH

SAGINAW, Mich., Sept. 22.—Reed City output pulled Michigan production in August 27,000 bbl. over the July total despite continuing declines in nearly all the rest of the state's larger fields.

Expectations are that it will be able to maintain the state's total, probably exceed it next month, because actual output from the 35 wells now in the field last week exceeded 15,000 bbl. a day, even under state-imposed proration of 480 bbl. per well per day. That is more than a third of the August daily average of 42,184 bbl. for the entire state.

Three more Reed City wells were completed last week, their initial daily potential exceedinng 8,300 bbl. The Reed City daily average in August was 7,690 bbl., figured from 15 promising wells; for July the figure was 3,948 from six wells, for June 2,466 bbl., for May 127 bbl.

Charles W. Teaters 2 Baderschneider, with estimated daily potential of 3,600 bbl., was the biggest of the three Reed City completions. Weber Oil Co. rated 2 Wilson better than 3,000 bbl. and Pure Oil Co. treated 3 Jewett with 500 gal. acid for initial of better than 1,600 bbl.

SUMMARY OF COMPLETIONS

	No.	Bbl.	Footage
Oil wells:			
Osceola County	3	8,375	10,753
Van Buren County	5	218	6,525
Dry holes:			
Allegan County	2	.....	3,256
Clare County	1	.....	4,095
Kent County	1	.....	2,202
Missaukee County	1	.....	1,460
Monroe County	1	.....	2,154
Van Buren County	2	.....	2,543
Total	16		32,988

MICHIGAN DAILY CRUDE-OIL RUNS

(Daily average for August 1941)

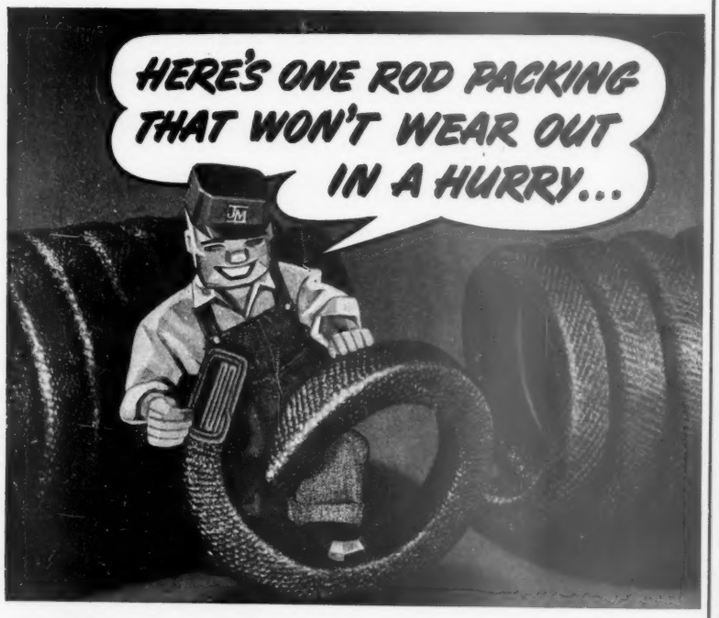
Pool—	Wells	Runs
Porter-Yost	337	3,967
Greendale-Chippewa	176	1,106
Sherman-Isabella	61	650
Vernon-Leaton-Denver	73	666
Wise-Isabella	61	912
Reed City-Osceola	15	7,690
Grant-Clare	2	0
Freeman-Redding	144	4,375
Winterfield-Clare	5	4,083
Beaverton-Grout	25	340
Buckeye—North and South	288	1,758
Edenville	26	170
Bentley	35	256
Secord-Gladwin	2	0
Ogemaw County	223	1,130
Adams-Arenac	31	2,774
Clayton-Arenac	50	688
Monitor-Bay County	7	580
Roscommon County	1	697
Saginaw City	51	39
Birch Run	25	32
Dundee-Monroe	18	193
Crystal-Wyman	34	264
Amble-Montcalm	3	51
Muskegon	56	46
Holland-Zeeland	3	15
Allegan—all pools	522	3,239
Walker-Wyo.-Tallmadge	474	3,549
Van Buren—all pools	283	2,914
Barry County	1	0
Total	3,032	42,184

Monitor Deep Well Making Big Gas Flow

Estimates were last week that natural-gas flow from Gulf Refining Co. plugged-back 1 Bateson deep test in Bay County's Monitor Township was from 5,000,000 to 15,000,000 cu. ft. a day. Well crews still were adjusting control units and the pressure of the gas, which is being burned 500 ft. from the rig, was so great that it acted as a refrigerant, the bleeder line being coated thickly with ice. The well has been plugged from its record depth of 10,477 ft. to about 7,800 ft.

Meanwhile Pure Oil Co. had practically abandoned hope for Dundee oil in its Roscommon Township, Roscommon test offset to that area's big wildcat producer. The Pure test missed the Traverse pay from which Eugene Hilliard has been getting heavy flowing production, and was reported to have drilled more than 80 ft. into the Dundee without result.

(Continued on Page 112)



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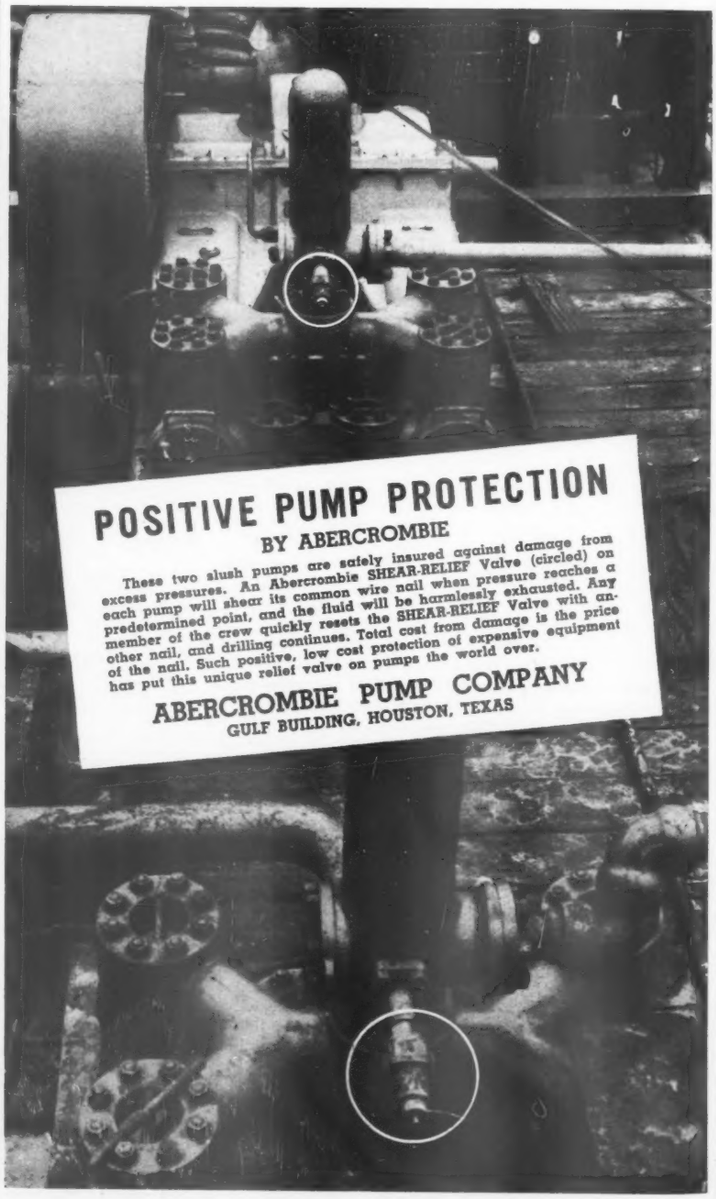
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ABERCROMBIE PUMP COMPANY
GULF BUILDING, HOUSTON, TEXAS

Pennsylvania Oil Men Welcome Postponement of Conference

OIL CITY, Pa., Sept. 23.—Postponement of the conference at Washington on Pennsylvania Grade crude oil prices from Wednesday to Friday, September 26, was welcomed by the hard-pressed committee toiling over the preparation of the brief to support the region's case against the ceiling on crude prices imposed by Leon Henderson, federal price administrator.

Effective August 23, Mr. Henderson issued an executive order slashing the price of region crude from 23 to 25 cents under the then-prevailing quotations and cutting back the Bradford price to $2.75 per barrel.

The request for the postponement of the hearing was made by the region committee which found itself nearly swamped with the great amount of data to be compressed into the brief. The material must be submitted in advance of the hearing.

The region's case will be presented by Fayette B. Dow, general counsel of the Pennsylvania Grade Crude Oil Association.

In commenting on the conference when the date was originally set, Mr. Henderson said: "I had hoped that precise cost data pertinent to this question would be submitted in advance of any meeting with members of the industry to permit study and analysis by members of the staff. Very little material has been received to date. I should like to see a substantial amount of additional information come in before the date is set for the meeting."

Various committees in all sections of the region have been assembling data on their own areas and this has been sent on to the office of the Pennsylvania Grade Crude Oil Association here for correlation.

The committee was profoundly shocked by the death of J. C. "Cliff" Martin, executive secretary of the Bradford District Pennsylvania Oil Producers Association, who was killed enroute to Oil City with data for the committee. C. E. Streeter, of Carter, Bradley & Streeter, Bradford producers, chairman of the cost committee in the Bradford district, was seriously injured in the accident. The two were driving from Bradford when a nitroglycerin truck, carrying 500 qt. of nitro, exploded just as the Streeter car, one witness said, was attempting to pass the truck on a long, clear downgrade. The driver of the truck, John Gloss of Irvine's Mills, N. Y., just over the state line from Bradford, was also killed.

Mr. Martin's brief case, containing the material from the Bradford field, was removed from the rear seat of the damaged car and brought on to Oil City later.

The committee to make the final draft of the brief was appointed by Mr. Dow. It is composed of J. E. Moorhead, executive secretary of the Pennsylvania Grade Crude Oil Association, chairman; E. C. Breene, Oil City attorney and producer; Ralph T. Zook, Bradford producer and vice president for Pennsylvania of the Independent Petroleum Association of America; Edwin W. Robinson, of Fairmont, W. Va., secretary of the West Virginia Oil and Gas Producers Association, and Philip N. Faine, of New Straitsville, Ohio, secretary of the Ohio-Pennsylvania Oil Producers Association.

Robert B. Bossler, of the Brundred Oil Corp., Oil City, and Parke A. Dickey, of the Pennsylvania Topographic and Geological Survey, who recently returned from Washington, pictured the staff of Mr. Henderson's office as a sincere, hard-working group earnestly seeking to render a service to the nation in the matter of price control.

Meanwhile the last-minute touches are being made on the brief here with papers on production, reserves, prices, etc., together with charts, graphs and maps, all being worked into the finished paper.

It is expected that a good-sized delegation of region men will be present at the meeting which Mr. Henderson termed a conference and invited "producers, sellers and refiners" of region crude to attend.

Appalachian Fields

(Continued from Page 97)

gas before shot. The Big lime was 1,843-1,965 ft.; Injun 2,030-65 ft.; Berea 2,380-2,401 ft.; Corniferous lime 4,931 ft.; Oriskany 5,034 ft.; gas 5,036 ft.; gas 5,040-48 ft., and total depth 5,048 ft. The rock pressure at the end of 11 hours was 1,850 lb. This well is about ½ mile north of the 10,000,000-cu. ft. gas well from the Oriskany sand on the J. W. Sweezy farm.

About 1 mile southeast of Sandyville and ¾ mile southwest of the large well on the W. S. Burdette farm, Spartan Gas Co. is completing a well on the Bessie and R. C. Boggess farm which appears will make a commercial well. The Corniferous lime was topped at 4,829 ft.; Oriskany 4,939 ft. with a gage of 223,000 cu. ft. of gas at 4,961 ft.

One other completion in this area appears will make a good well after shot. Hays Oil & Gas Co. topped the Corniferous lime at 4,834 ft. and the Oriskany at 4,948 ft. in the test on the Estil Hill farm about ¼ mile southeast of the well on the W. S. Burdette farm. At 4,966 ft. it was gaging 2,728,000 cu. ft. of gas and will shoot into a large well.

Roane County Test Drilling in Oriskany

In Roane County, the important test of the United Fuel Gas Co. on the B. C. Littlepage farm in Walton district, Roane County, northeast of Kanawha County deep-sand production, is drilling at 5,376 ft. or 26 ft. in the Corniferous lime.

In Monongalia County the deep test of the Hope Natural Gas Co. on the H. C. Greer et al lease in Morgan district is drilling at 7,255 ft. in black shale, probably the Marcellus, and nearing the Onondaga. In Lewis County the rotary test of this company on the Alfred Woofter farm in Freemans Creek district is drilling at 5,213 ft.

Boone County

Sherman district: Hope 8552 Federal Coal Co., 100,000 cu. ft. gas, Berea, T.D. 2,450 ft.
Washington district: Owens, Libby-Owens 25 Little Coal Land Co., 119,000 cu. ft. gas after shot, Berea, T.D. 1,879 ft.

Calhoun County

Lee district: Hope 1 Creed Yoak, old gas well cleaned out and shot, now ¾-bbl. pumper, Injun sand, T.D. 2,225 ft.
Sherman district: W. H. Bickel 1 O. V. Bigler, 60,000 cu. ft. gas, Injun sand, T.D. 2,150 ft.

Clay County

Henry district: Virginian Gasoline & Oil Corp. V-1302 Brown, Swann & Goshorn, 15 bbl., Injun sand, T.D. 1,762 ft.

Gilmer County

Center district: Chartiers Oil Co. 8 Daniel Huffman, deepened from the Maxton sand, 1 bbl., Injun sand, T.D. 1,766 ft.
DeKalb district: McCall Drilling Co. 3 Margaret E. Arbuckle, dry, Big Dunkard 760-95 ft., Blue Monday 1,435-60 ft., Big lime 1,460-1,550 ft., Big Injun 1,550-85 ft., show of gas only, T.D. 1,677 ft.

Lincoln County

Jefferson district: Mud River Gas Co. 2 Elizabeth Adkins, 800,000 cu. ft. gas, brown shale, T.D. 3,710 ft.
Washington district: Harvard Gas Co. 9 Lincoln Mineral Co., 412,000 cu. ft. gas, Big lime 1,762-1,931 ft., Big Injun 1,931-78 ft., Berea 2,412-33 ft., brown shale 3,590-3,872 ft., shot 6,600 lb. gelatin 3,095-4,035 ft., T.D. 4,035 ft.

Pleasants County

Jefferson district: B. C. Deem, Jr., 1 H. L. Sigler, 200,000 cu. ft. gas, Injun sand, T.D. 1,851 ft.

Ritchie County

Grant district: West Virginia Investment Co. 25 Joseph Parks, 25 bbl., Injun sand, T.D. 1,810 ft.
Layfield Oil & Gas Co. 1 A. F. Parks, dry, Squaw sand, T.D. 1,800 ft.

Upshur County

Banks district: Cumberland & Allegheny Gas Co. 309 P. S. Lewis, 50,000 cu. ft. gas, Benson sand 3,902 13 ft., gas 3,910 ft., T.D. 4,087 ft.

Wayne County

Union district: Clyde Huffman 1 Elba Booth, 174,000 cu. ft. gas, brown shale, T.D. 2,890 ft.

ORISKANY GAS FIELDS

Kanawha County

Poca district: O. D. Hill, Jr., 1 B. E. Fisher, 3,130,000 cu. ft. gas, Corniferous lime 4,661 ft., Oriskany 4,759 ft., T.D. 4,804 ft.

DRILLING

Elk district: Columbian Carbon Co. 1 W. B. Fogarty, Corniferous lime 4,900 ft.
Poca district: Columbian Carbon Co. 1 H. C. Jones, Corniferous lime 4,957 ft.
United Carbon Co. 1 G. L. Cabot, Corniferous lime 5,010 ft.
United Carbon Co. 1 J. S. Clendenin, Corniferous lime 5,010 ft.

Jackson County

Ravenswood district: Columbian Carbon Co. 1 Frances Kent, bit left in the sand, Corniferous 4,829 ft., Oriskany 4,925 ft., T.D. 4,959 ft., final gage 2,758,000 cu. ft., R.P. 1,850 lb.

DRILLING

Ravenswood district: Mullins Gas Co. and Hays Oil & Gas Co. 1 J. E. Sweezy et al, Corniferous lime 4,915 ft.
Ripley district: G. L. Cabot, Inc., 20 Putnam Co., Corniferous 4,854 ft.
R. E. McCabe 1 R. L. and W. Fisher, Corniferous 4,889 ft.
United Carbon Co. 1 F. F. Starcher, Corniferous 5,049 ft.
United Fuel 5029 J. Heilman, Corniferous 5,054 ft.

Rocky Mountain Area

(Continued from Page 90)

23-35n-3w, T.D. 1,645 ft., top Sunburst 1,600 ft., pumped 8 bbl. per hr.
Soap Creek field, Big Horn County: Midland Empire Oil 1 Sunray, NW NW SE 34-6s-32e, dry 110 ft.

MONTANA DRILLING REPORT

Blaine County: Montana Gas 1 Dineen, C NW NW 2-31n-19e, spudded, first report, Bowes field.
Cascade County: Bushford Pet. 1 Shannon-Roberts, C SW NE 12-20n-1e, T.D. 3,300 ft., recovered bailer, preparing to run 3-in.
Carbon County: Continental Oil 1 Merrill, SW SW SW 34-9s-25e, T.D. 3,556 ft., trying to shut off water.
Fallon County: Carter Oil 1 Northern Pacific, C SE SW 19-4n-62e, drilling 8,844 ft.
Glacier County: A. B. Cobb 1 Tribal-206, NW NW SW 19-32n-5w, location, first report.
R. C. Tarrant 3 Larson, C E½ NW 7-34n-5w, spudded, first report.
Texas 3-B Government, NE SW SE 18-32n-5w, location, first report.
Texas 4 Lindquist, CNL NW 20-32n-5w, moving in, first report.
A. B. Cobb 1 Jeffries-Stufft, CEL SE NE 3-35n-6w, location, first report.
Ralph E. Davis 2 Tribal-205, SE SE NE 25-32n-6w, drilling 850 ft., top Colorado 635 ft., cemented 10¾-in. 657 ft.
Wright Haggerty 1 Tribal, SE SW SW 18-32n-5w, cemented 10¾-in. 586 ft., top Colorado 555 ft.
A. B. Cobb 1 Tribal-202, SE SE NE 24-32n-6w, cemented 7-in. 2,928 ft.
R. C. Jeffries 1 Tribal-197, NE SE NW 30-32n-5w, running 8⅝-in. at 2,366 ft., 5 bailers water per hr. at 2,330-53 ft.
Texas 7 Curren, C SE NW 8-32n-5w, spudded.
Texas 2 Lander, C NE SE 20-35n-6w, running 8⅝-in. at 2,665 ft.
Par Oil 1 Tribal-200, SE SW SE 13-32n-6w, drilling 700 ft., cemented 10¾-in. 616 ft.
Glacier Prod. 5 Neill, CEL NE 20-33n-5w, cemented 10¾-in. 647 ft., top Colorado 615 ft.
Hill County: Edwards & Callison 1 Hansen, SW SE NW 25-33n-15e, S.D. 1,414 ft., unable to shut off water at 1,100 ft.
Park County: Intermountain States Oil 1 Burgess, SE SW NW 28-2s-11e, drilling 1,750 ft.
Intermountain States Oil No. 1, NE SE SW 6-3s-11e, drilling 120 ft., first report, Mission Creek.
Liberty County: Montana-Dakota Utilities 1 Oswood, C NE SW 18-35n-4e, T.D. 2,925 ft., waiting on perforator.
Phillips County: Montana-Dakota Utilities 656 Federal Land Bank, C SE NE 8-31n-32e, location, first report, Bowdoin field.
Montana-Dakota Utilities 642 First State Bank, C NW SE 7-32n-34e, drilling 571 ft.
Montana-Dakota Utilities 657 Federal Land Bank, C NE NW 9-31n-32e, cemented 8⅝-in. at 100 ft. and S.D.
Toole County: L. J. Yealy 16 Shaw, NW NW NE 35-36n-2w, drilling 650 ft., 10-in. 180 ft., first report.
Superior Pet. 4-A Government, C SE NW 24-35n-3w, cemented 10-in. 260 ft., first report.
Washington Oil Finding 1 Unz, C NW SW 9-36n-2w, drilling 2,010 ft., contact 1,980 ft., water 2,005-08 ft.
Henry Vander Pas 2 Solberg, SW SW SE 20-35n-3w, drilling 1,740 ft., Sunburst 1,525-55 ft.
Pfabe & Engelking 1 Danielson, CNL SE NE 20-35n-3w, drilling 190 ft.
Montana-Dakota Utilities 327 Donovan, C NW SE 31-34n-1w, drilling 925 ft., 10-in. 220 ft., first report.
Imperial-Craig 6 Martin, CEL SE SE 18-35n-1w, spudded, first report.
Hat Oil 1 Mitchell, C NE SW 24-37n-3w, T.D. 1,133 ft., cemented 10-in.
Enfield Oil 6 Zacher, NE SE NW 20-35n-1w, drilling 350 ft., 8⅛-in. 101 ft., first report.
Yellowstone County: Yale Oil No. 2, SW NW NW 9-2s-26e, drilling 1,100 ft., 10¾-in. 1,053 ft., first report.

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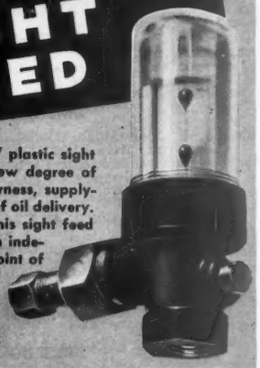

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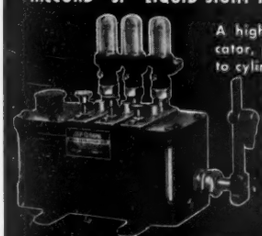

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LOUISIANA GULF COAST

Important Extension to South Flank of Gueydan Established

By F. L. SINGLETON

NEW ORLEANS, La., Sept. 22.—High tides which accompanied last week's storm resulted in many wells especially those in the Delta region being shut down and at the end of the week drilling had not been resumed in many fields. As a result Louisiana Gulf Coast activity was small.

An important west extension to the deep sand on the south flank of the Gueydan field, Vermilion Parish, was recorded with the completion of Pure 9 Alliance Trust. The well topped an unusually thick section of sand at 9,764 ft., and this was cored to a total depth of 9,890 ft. Completion was made by perforating casing at 9,812-80 ft., and on a 24-hour gage it flowed 256 bbl. of 34.1-gravity oil through a 9/64-in. choke. Tubing pressure was 1,700 lb., and casing pressure 425 lb. Location is in 33-11s-1w. On the north flank of the dome, Fohs Oil Co. has started drilling operations at 1 Evans, an offset to the company's 1 Grady Lee Humble, recently completed to open deep-sand production at a depth below 8,000 ft.

Casing Set in Deep-Flank Test on Welsh Dome

On the south flank of the Welsh dome, Jefferson Davis Parish, Union Sulphur 2 Arceneaux which showed indications of opening production from a new and deeper sand is bottomed at 7,449 ft., where 7-in. casing was cemented. Whether the well will be cored deeper or tested at the present depth was not revealed. This well showed some oil and considerable gas pressure the previous week after drilling sand from 7,416-48 ft.

Edge Well at Pine Prairie Sidetracked Into Pay

On the northeast flank of the Pine Prairie dome, Evangeline Parish, Pan American 1 Guillory is reported to have the regular sand at intervals from 8,308-58 ft., and casing is reported to have been cemented for testing. This well is the most northeasterly well drilled on the structure and salt water sand was cored in the original hole, which was then plugged back and sidetracked. While the well may be completed as a producer, it definitely limits development in this direction.

Two Flank Wells Staked On Belle Isle Dome

Continuation of exploration around the flanks of the old Belle Isle dome, St. Mary Parish, is assured as locations for two wells were announced by the Sun Oil Co. The locations are 2 Belle Isle and 2 State Belle Isle in 1-18s-10e, and 28-17s-10e respectively. Distillate production was established on the dome in April of this year at 9,830-70 ft., and one well was recently abandoned after drilling into rock salt.

New Wildcats

Plaquemines Parish received a new wildcat operation as location was made by Hare & Lauria for 1 George Collins in 53-20s-29e. The well is situated on a block of several thousand acres which is reported to have been worked extensively with geophysical instruments.

Southeast of Prairieville in Assumption Parish, tentative location for a deep wildcat was made by Humble Oil & Refining Co. in 8-9s-3e.

A slight east extension to the deep pay in the Jennings field, Acadia Parish, with the completion of Gulf 43 Arnaudet, which is flowing at the rate of 170 bbl. daily through a $\frac{1}{4}$-in. choke from perforated casing at 7,622-32 ft.

The successful development of flank sands around the Bayou Blue field, Iberville Parish, is resulting in increased activity. Locations were announced by Superior Oil Co. of California, and the Union Sulphur Co., the latter company's location is on the Schwing Lumber & Shingle Co. in 67-9s-11e on the east flank of the dome where important production was recently opened by the company.

Two Deep Wilcox Tests Near Pay at Neale

The importance of the deep sand recently opened in the lower Wilcox formation in the Neale field, Beauregard Parish, is expected to be revealed within the next week or so as two wells being drilled simultaneously by the Atlantic Refining Co. are nearing the expected pay. The wells are 3-B Rice Land & Lumber Co., and 1 Hawkins unit, both of which would open important extension should they be successfully completed in the deeper pay. Both wells are reported to have logged the upper Wilcox sand at 8,300 ft.

SUMMARY OF COMPLETIONS

	No.	Bbl.	Footage
Oil wells: Fields	13	2,978	112,743
Dry holes: Fields	3	.....	29,444
Wildcats	1	.....	8,520
Total	17	.....	150,707

Lapeyrouse Discovery Flows Oil and Salt Water

Gulf 1 Picou, the discovery well of the Lapeyrouse field, Terrebonne Parish, was retested through perforated casing at 10,945-50 ft. and the well flowed 162 bbl. of fluid per day, of which 34 per cent was oil and the balance salt water. At the close of the week the perforations had been cemented off.

Bayou Sale Defined on North

The Bayou Sale field, St. Mary Parish, was defined to the north with the abandonment of Harbor Oil Co. 1 State in 14-16s-9e, at a depth several hundred feet below the discovery pay at 10,100 ft. With the abandonment of the well, interest was shifted about 1 mile south where Atlantic 1 St. Mary Land Co. is nearing the expected pay. Locations for several outpost wells have been announced, and the potentiality of the structure is expected to be determined at an early date.

LOUISIANA GULF COAST COMPLETIONS

Wildcat

Iberia Parish: Gulf 2 State, Rabbit Island, well attempted to blow out, stuck D.S., junked and abandoned, T.D. 8,520 ft.

Fields

Anse La Butte, St. Martin Parish: Stanolind 3 Rycade, 266 bbl., 5/32-in. choke, perf. casing 6,060-95 ft., T.D. 6,525 ft.

Bayou Blue, Iberville Parish: Superior 13 Schwing Lbr. & Shingle Co., 6 bbl. pumping, T.D. 5,168 ft., P.B. T.D. 1,262 ft.

Chacahoula, La Fourche Parish: Sun 4 Dibert Stark & Brown Cypress Co., 180 bbl., $\frac{1}{8}$-in. choke, perf. casing 7,834-52 ft., T.D. 8,303 ft.

Golden Meadow, La Fourche Parish: Texas 11 La Terre, 383 bbl., $\frac{1}{4}$-in. choke, T.D. 10,460 ft., P.B. T.D. 10,383 ft.

Gueydan, Vermilion Parish: Fohs 1 Dore, temporarily abandoned, T.D. 10,262 ft.

Jennings, Acadia Parish: Shell 17 Community, 324 bbl., 7/64-in. choke, perf. casing 7,694-99 ft., T.D. 8,588 ft.

Lake Chicot, St. Martin Parish: Amerada et al 1 State, 204 bbl., 5/32-in. choke, perf. casing 9,025-40 ft., T.D. 9,995 ft.

New Iberia, Iberia Parish: Lisbon Iberia 3 Hebert, 142 bbl., 10/64-in. choke, perf. casing 4,656-4,712 ft., T.D. 6,133 ft.

Paradis, St. Charles Parish: Texas 1 Mallory, 260 bbl., 5/32-in. choke, perf. casing 10,145-70 ft., T.D. 10,490 ft.

Pine Prairie, Evangeline Parish: E. J. Nicklos 1 Jessie Reid, dry, T.D. 9,554 ft.

South Crowley, Acadia Parish: Humble 1 Kahn, 130 bbl., $\frac{1}{4}$-in. choke, sand 8,806-12 ft.

Sweet Lake, Cameron Parish: Pure 24 Stanolind, 150 bbl., $\frac{1}{4}$-in. choke, perf. casing 6,044-58 ft., T.D. 7,673 ft.

Venice, Plaquemines Parish: Tide Water 11 Buras

(Continued on Page 106)

Hawkins Extended North as Play on East Side Grows

By D. H. STORMONT

DALLAS, Tex., Sept. 22.—Operations in the Hawkins pool of Wood County held to the active pace of the previous week while scattered completions in other parts of the district marked a slight decrease in activity. There were 11 new locations announced for the Hawkins pool, with the biggest play on the east side where four tests were staked.

Outstanding completion of the week in the Hawkins pool was Humble 1 C. H. Shamburger, J. McAnulty Survey, which extended the field approximately ½ mile north. On official gage the well rated a daily potential of 272.88 bbl. of oil through ¼-in. choke on tubing to become one of the best producers in the northern part of the field. Shut-in pressure on the casing was 430 lb. and flowing pressure on the tubing was 450 lb. Gas-oil ratio was 232 to 1. Production is through casing perforations from 4,944 to 4,950 ft., with total depth of 5,147 ft.

SUMMARY OF COMPLETIONS

	No.	Bbl.	Footage
Oil: East Texas field	5	201	18,228
Hawkins	7	2,723	33,696
Other fields	4	304	15,549
Dry holes: Fields	1		1,784
Wildcats	3		12,894
Total	20		84,351

Wildcat to Test Club Lake Prospect in Hunt County

In southeast Hunt County the Cable Tool Drilling Co. will test the Paluxy sand at 1 J. D. Williams. In drilling, operator will test the Woodbine sand, expected around 3,000 ft., as well as the Paluxy, around 4,500 ft. No. 1 Williams will be drilled on a 1,200-acre block 9 miles southeast of Greenville and is located 396 ft. from the north and 467 ft. from the west lines of a 31.7-acre tract in the William Elam Survey.

Wildcats in Limestone and Henderson Counties Promising Oil Production

The prospect of oil production in the Groesbeck gas area in central Limestone County was indicated this week at B. F. Weekly 1-A E. Baron, E. Mabry Survey. An electrical survey on the test gave indication of porosity in both the Glen Rose and Pettit sections.

No. 1-A Barron is east of four gas wells, none of which investigated the lower levels of the Pettit because the Magnolia Petroleum Co. held oil rights on the lower formations. Nearest gas well to the 1-A Barron is the 2 Barron which was completed for 15,000,000 cu. ft. of gas daily with 15 bbl. of black distillate. No. 1-A Barron is 45 ft. lower than this producer.

The test is bottomed at 5,776 ft. Around 4,300 ft. the electrical survey indicated 111 ft. of porous Glen Rose section and while drilling the mud pits were covered with oil from that zone. At 5,776 ft. another 100 ft. of porosity was revealed on the survey. This formation is thought to be the Pettit sand. Operators plan to drill out the plug and set casing on the bottom of the hole before perforating opposite the Glen Rose and Pettit in completion attempts.

Henderson County's deep wildcat, the British American 1 Young, Rice Survey, which has been testing through casing perforations at various depths for the last month is once more promising oil production from the long-known structure southwest of Athens.

No. 1 Young is being tested in the Rodessa formation through perforated casing at 7,608-24 ft. and is flowing 3.6 bbl. of fluid per hour, 37 to 39 per cent 46.9° oil. Gas is measured at 485,000 cu. ft. daily. Production is through ¼-in. tubing choke.

Operator perforated casing at the first of the week and swabbed 6½ hours, recovering salt water with a slight show of oil and an estimated 200,000 cu. ft. of gas daily. As the gas increased the well kicked off to flow with a gradual increase in the oil production.

The test was drilled to 8,474 ft. and casing was perforated five times before oil was encountered. Operator plans to let the test flow into pits in an attempt to increase oil output before planning the next course.

EASTERN TEXAS COMPLETIONS

Wildcats

Houston County: T. C. Chism and G. L. Porten 1 P. D. Austin, F. Johnson Sur., 1½ mi. SW of Crockell, plugged at 3,603 ft.

Robertson County: Heith & Morrison 1 Martin, 467 ft. out of N cor. W. R. Cox Sur., abandoned location.

Upshur County: Werby & Tune 1 Newsome & Cunliffe, 2,800 ft. from most southerly SE and 2,600 ft. from SW lines A. Butler Sur., top Georgetown lime 3,960 ft., dry at 3,990 ft.

Wood County: Fred Strang 1 Old, 467 ft. from S and 644 ft. from W lines 317-ac. tract in J. R. Smith Sur., dry at 5,301 ft.

East Texas Field

(1-hr. gage)

Longview, Gregg County: Selby Oil & Gas 30-A Snavely, W. Tyndale Sur., 54 bbl., perf. casing 3,546-58 ft. Shell 33 Landers, G. W. Hooper Sur., 32 bbl., perf. casing 3,678-92 ft, 3,677-82 ft., P.B. from 3,729 ft.

Kilgore, Gregg County: John Wrather A-24 I.&G.N. R.R., W. V. Winkle Sur., 35 bbl., 3,547-75 ft.

Kilgore, Rusk County: Wheelock & Collins 23 Wells, M. Y'Barbo Sur., 48 bbl., 3,645-55 ft.

Joiner, Rusk County: Shell 30-B Brooks, M. J. Pru Sur., 32 bbl., perf. casing 3,630-50 ft., 3,662-74 ft., P.B. from 3,711 ft.

Joiner, Cherokee County: Ohio Oil 2 Saddler, S. Coy Sur., salt water disposal well, 20 gal. per minute by gravity, T.D. 3,775 ft.

Other Fields

Cayuga, Freestone County: Stanolind 6 Cullinan, E. G. Rector Sur., 102 bbl. in 18 hr., perf. casing 4,005-10 ft., T.D. 4,020 ft.

Hawkins, Wood County: General American 1 Bethlehem Methodist Colored Church, Brewer Sur., 113 bbl. in 6 hr., ¼-in. choke, perf. casing 4,690-4,710 ft., T.D. 4,792 ft.

Humble 1-A Green, Brewer Sur., 110 bbl. in 6 hr., ¼-in. choke, perf. casing 4,626-36 ft., T.D. 4,762 ft.

Humble A-2 Moore, J. Pollock Sur., 120 bbl. in 6 hr., ¼-in. choke, perf. casing 4,547-52 ft., T.D. 4,722 ft.

Humble 1 Morrison, Brewer Sur., 110 bbl. in 6 hr., ¼-in. choke, perf. casing 4,592-97 ft., T.D. 4,690 ft.

Humble 1 Shamburger, J. McAnulty Sur., 273 bbl. in 24 hr., ¼-in. choke, top Woodbine 4,823 ft., perf. casing 4,944-50 ft., T.D. 5,147 ft.

Roger Lacy 1 Pouncey, J. P. Moseley, 108 bbl. in 6 hr., ¼-in. choke, top Woodbine 4,418 ft., oil sand 4,497 ft., T.D. 4,783 ft.

Rudco Oil & Gas 1 Morrison, Brewer Sur., 124 bbl. in 6 hr., ¼-in. choke, perf. casing 4,590-4,650 ft., T.D. 4,800 ft.

Long Lake, Anderson County: Hunt Oil 6 Broyles & Woolverton, E. Ewing Sur., 69 bbl. in 24 hr., 7/64-in. choke, top Austin 4,768 ft., pay 5,347-65 ft.

Northeast Long Lake, Anderson County: Tex Harvey Oil 3 Cartmel, E. Ewing Sur., 68 bbl. in 24 hr., 6/64-in. choke, T.D. 5,403½ ft.

Powell, Navarro County: Midco Gasoline Corp. 1 McKie, J. Broyles Sur., dry at 1,784 ft.

Wortham, Freestone County: J. B. Daniels 1 Young, 16.5 bbl. in 24 hr., 65 per cent water, T.D. 2,960 ft.

EASTERN TEXAS ACTIVE WILDCATS

Anderson County: Roosth & Genecov 1 Saunders, 2,675 ft. from S and 6,900 ft. from W lines J. Ferguson Sur., old well drilling deeper, old T.D. 5,229 ft., ran tubing, swabbed salt water, S.D. orders, T.D. 5,229 ft.

Camp County: Talco Asphalt Co. 1 McKenzie, L. William Sur., ¾ mi. W Pittsburg field, 190-qt. shot 7,978-8,053 ft., 750 gal. acid, swabbing oil, acid water and gas.

Freestone County: J. L. Collins & Co. 1 Stewart, 1,400 ft. from W and 500 ft. from N lines 100-ac. lease out of 241.6 and 220-ac. tracts, James Sur., 10-in. casing at 205 ft., top Austin 3,200 ft., T.D. 3,468 ft.

Westbrook & Whistler 1 Coleman, H. Howard Sur., 2½ mi. SW Streetman, S.D., orders, 3,506 ft.

Henderson County: British American Oil 1 Young, J. Rice Sur., 7½ mi. SW Athens, perf. casing 7,608-24 ft., flowing 3½ bbl. per hour, 33 per cent oil.

Lone Star Gas 2 Allen, 3,490 ft. from W and 4,780 ft. from S lines J. Lawson Sur., top Glen Rose 6,700 ft., T.D. 8,403 ft.

Limestone County: Farrell Drlg. 1 Gilliam, 1,536 ft. from NW and 1,426 ft. from NE lines Spence Sur., top Austin 1,223 ft., show oil 1,990-96 ft., drilling 2,230 ft.

B. F. Weekly A-2 Barron, 660 ft. out of NE cor. 320-ac. tract in E. Mabry Sur., P.B. to 4,460 ft., waiting on cement at 5,786 ft., T.D.

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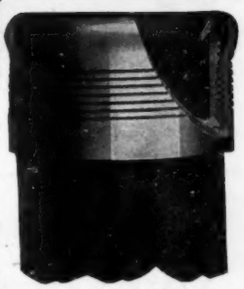

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Red River County: Magnolia 1 Henry, 700 ft. from N and 540 ft. from W lines 100-ac. tract in M.E. P.&P. Sur. 103, derrick and rigging up.
Robertson County: R. O. Pinkerton 1 Anderson, James Webb Sur., 6 mi. NE Calvert, pumped 7 gal. oil in 3½ hr., repairing pump.
Smith County: Sun Oil B-1 Sanders, 648 ft. from N and 1,000 ft. from W lines 81.53-ac. tract in Matthen Arnold Sur., 2 mi. SW Chapel Hill, set 5½-in. casing at 8,365 ft., top Travis Peak 8,359 ft., prep. to perf. casing, T.D. 8,367 ft.

Louisiana Gulf Coast Fields

(Continued from Page 104)

Levee District, 251 bbl., ⅛-in. choke, T.D. 10,690 ft., P.B. T.D. 10,275 ft.
Ville Platte, Evangeline Parish: Continental 8 Haas, 312 bbl., 16/64-in. choke, perf. casing 10,128-54 ft., T.D. 12,527 ft.
West Bay, Plaquemines Parish: Gulf 5-B Timolat, 360 bbl., ¼-in. choke, perf. casing 7,280-90 ft., T.D. 7,379 ft.
Woodlawn, Jefferson Davis Parish: Woodlawn Oil Corp. 1 Miller, dry, T.D. 9,628 ft.

LOUISIANA GULF COAST DRILLING REPORT

Assumption Parish: Humble 1-B Schwing Lbr. & Shingle Co., Bayou Des Glaise dome, drilling sand 9,567 ft.
Jefferson Parish: Stanolind 1 Weigand, Westwego field, T.D. 9,222 ft., perf. casing 8,990-93 ft., testing.
La Fourche Parish: Gulf 7 State PP, 8-21s-21e, T.D. 12,490 ft., S.D. high tides.
Plaquemines Parish: Texas 2 State, Delacroix Island, S.D. 10,215 ft., high tides.
Texas 1 Delta Duck Club, Delta Duck Club field, S.D. 6,434 ft., high tides.
St. Helena Parish: Humble 1-C Great Southern Lbr. Co., drilling sand 8,183 ft.

Oklahoma Fields

(Continued from Page 81)

NE 24-9-4, flowed 408 bbl. through ⅛-in. choke, Hunton 4,105-97 ft., 5-in. 4,317 ft., acid, T.D. 4,385 ft.
Fish, Seminole County: Mid-Continent 4 Fish, NE NE NW 19-7-8, pumped 40 bbl. oil and 20 bbl. water, lower Calvin 1,467 ft., shot 1,485-90 ft., 7-in. 1,483 ft., T.D. 1,490 ft.
Hewitt, Carter County: Merrick 4 Patterson, SW SE SW 21-4s-2w, pumped 19 bbl., pay 2,365-2,410 ft., 7-in. 2,365 ft., T.D. 2,410 ft.
West Hewitt, Carter County: Gibson 12 Harrell-A, SE SW NW 20-4s-2w, pumped 358 bbl., perf. 2,033-2,164 ft., 7-in. 2,180 ft., T.D. 2,180 ft.
Smith 3 Ward, NW NE NE 19-4s-2w, flowed 275 bbl., pay 2,181-2,301 ft., 7-in. 2,181 ft., T.D. 2,301 ft.
Smith 9 Ward, SW SE SE 18-4s-2w, pumped 188 bbl., pay 2,187-2,289 ft., 7-in. 2,187 ft., T.D. 2,300 ft.
Hobart, Kiowa County: Sherman 6 Watkins, NE SW NW 20-7-17w, pumped 480 bbl., 8-in. 1,129 ft., ripped 1,100-29 ft., T.D. 1,129 ft.
North Little River, Seminole County: Atlantic 2 Wolfe, SW NE 30-8-7, flowed 146 bbl., cut 5 per cent, Hunton 4,125 ft., 5-in. 4,126 ft., acid, T.D. 4,140 ft.
Mason, Okfuskee County: Texas 1 Unussee, N½ SW NE 15-12-9, dry, T.D. 3,977 ft., 5-in. 3,849 ft., second Wilcox 3,970 ft.
South Maud, Pottawatomie County: Atlantic 4 Merkle, NW NW NE 32-8-5, pumped 50 bbl. oil in 18 hr., Wilcox 4,340-46 ft., T.D. 4,466 ft.
Atlantic 5 Merkle, SE NW NE 32-8-5, pumped 18[illegible] bbl., Wilcox 4,345-62 ft., shot 4,350-57 ft., 6-in. 4,345 ft., T.D. 4,362 ft.
Oklahoma City: British American 1 School, NE NW SW 15-11-3w, pumped 243 bbl., Simpson 6,382 ft., pay 6,374-6,546 ft., T.D. 6,546 ft.
Barnsdall 4-A Bracht, SE NW SW 23-12-3w, pumped 445 bbl., Wilcox 6,505-88 ft., 7⅝-in. 6,365 ft., shot, T.D. 6,588 ft.
St. Louis, Pottawatomie County: Denver 3 Decker, SW SE SE 8-7-4, pumped 300 bbl. oil and 1,200 bbl. water, dolomite 4,042 ft., acid, T.D. 4,049 ft.
Sinclair 3 Cummings, SW NE NE 17-7-4, pumped 240 bbl. oil and 558 bbl. water, dolomite 4,031 ft., 7-in. 4,203 ft., perf. 4,044-66 ft., T.D. 4,205 ft.
East St. Louis, Pottawatomie County: Eagle 5 School Land-C, NW NW NE 16-7-5, dry, T.D. 4,280 ft., second Wilcox 4,275 ft.
North St. Louis, Pottawatomie County: Amerada 3 Peters, SW SW NE 27-8-4, flowed 345 bbl. through 1-in. choke, Hunton 3,873 ft., pay 3,877-3,910 ft., T.D. 3,915 ft.
East Stroud, Creek County: Devonian 4 Hamilton, NE SW SE 32-15-7, pumped 13 bbl., Prue 2,839 ft., pay 2,842-77 ft., 5-in. 2,837 ft., T.D. 2,879 ft.
East Tecumseh, Pottawatomie County: Crosbie and Atlantic 4 School Land, NW SW NE 16-9-4, pumped 504 bbl., Viola 4,626 ft., perf. 4,620-45 ft., acid, T.D. 4,692 ft.
Tussy, Carter County: Batson 1-A Moore, SW SE NE 5-1s-3w, pumped 75 bbl., 25-gravity, pay 2,597-2,761 ft., 7-in. 2,734 ft., T.D. 2,774 ft.
Velma, Stephens County: Magnolia 28 Dillard, SE NW NE 2-2s-5w, pumped 94 bbl., pay 450-695 ft., 8-in. 416 ft., T.D. 695 ft.
Wewoka, Seminole County: Berry 1-A Knight, NE NW NE 6-7-8, dry, T.D. 40 ft.

Miscellaneous

Creek County: Big Four 6 Vance, NW NE NE 24-19-7, pumped 10 bbl., Bartlesville 2,718-24 ft., 6-in. 2,475 ft., T.D. 2,728 ft.
Curtis Oil 1 Ford, SE NE NE 9-19-9, pumped 10 bbl., pay 2,015-30 ft., T.D. 2,030 ft.
Klingensmith 1 Dora Cloud, NE SE SW 22-17-11, dry, T.D. 2,577 ft., Wilcox 2,525-37 ft.
Tibbens 7 Harry, NW NW NW 9-14-10, pumped 143 bbl., Misener 3,170-92 ft., 5-in. 2,768 ft., T.D. 2,192 ft.
McIntosh County: J. H. Rebold 1 Trapp, S½ SW NW 1-12-16, 23,000,000 cu. ft. gas, pay 1,998-2,011 ft., T.D. 2,011 ft.
Okmulgee County: Schock 3 McKee, NW SE NE 17-14-11, pumped 40 bbl., Dutcher 2,394-2,416 ft., T.D. 2,418 ft.
Osage County: Midco 2-A Osage, NE SE NW 17-25-11, dry, T.D. 1,837 ft., Bartlesville 1,788-1,814 ft.
Stanolind 16 Osage, SW SW SE 18-27-8, pumped 86 bbl., Mississippian chat 2,377-2,433 ft., 5-in. 2,388 ft., T.D. 2,433 ft.
Seminole County: Cummings 1 Matkins, SW NW NW 13-9-7, pumped 40 bbl., Cromwell 3,354-69 ft., 7-in. 3,354 ft., T.D. 3,369 ft.
Tulsa County: Anthony 11 Whetstone, NE SW SW 3-16-12, pumped 20 bbl., Dutcher 1,913-36 ft., 7-in. 1,867 ft., T.D. 1,936 ft.
Reynolds 4 Bell, SE SW NW 14-19-10, pumped 15 bbl., pay 1,801-20 ft., T.D. 1,820 ft.
M. L. King 2 Cummings, N½ NE NW 11-18-12, dry, T.D. 1,775 ft., Dutcher 1,695-1,772 ft.
Wagoner County: Hausum 1 Hausum, NW SE NW 13-17-15, 500,000 cu. ft. gas, pay 650-70 ft., T.D. 1,159 ft.
Ralph North 2 Roberts, NE NE SE 29-17-17, dry, T.D. 560 ft., Dutcher 552-60 ft.
Schmidt 1 Cassidy, W½ NW NW 31-18-16, dry, T.D. 1,052 ft.

Recompletions

Cumberland, Bryan County: Pure 1 Little-208, SW SW NW 27-5s-7e, swabbed and flowed 52 bbl. in 8 hr., old T.D. 5,073 ft., P.B. 5,056 ft.
Empire, Stephens County: Cities Service 12 Cantrell, NE SE SW 33-1s-8w, pumped 35 bbl., old T.D. 2,172 ft., deepened to 2,226 ft.
Fitts, Pontotoc County: Skelly 5 Metropolitan, SW NE SW 23-2-7, dry, old T.D. 4,007 ft., shot 1,355-75 ft.
West Hewitt, Carter County: Smith 8 Ward, SE SE SE 18-4s-2w, flowed 984 bbl., old T.D. 2,189 ft., deepened to 2,230 ft.
Velma, Stephens County: Skelly 8 Nicholas, NE SW SW 36-1s-5w, dry, old T.D. 692 ft., deepened to 1,360 ft.

OKLAHOMA DRILLING REPORT

Panhandle

Beaver County: T. R. Lofland 1 fee, W½ SE 13-6n-21ecm, S.D. 3,127 ft., fighting cave in.

Southwestern

Bryan County: Sinclair Prairie 1 Irwin, SW SE SE 19-6s-12e, drilling 1,169 ft. in lime.
Caddo County: Amerada 1 Sprages, SE NW 11-8-12w, drilling 3,278 ft. in red beds.
Denver 1 Sah-Cam, SE SE 33-10-10w (old T.D. 10,084 ft.), drilling out whipstock 8,650 ft.
Carter County: Lloyd Sanders 1 Harmon, NE SE SW 21-1s-2w, sand 292-312 ft., show oil, T.D. 315 ft.
Coal County: Ramsey 1 Replogle, NW NW NW 27-2-9, sand 1,256-71 ft., 1,290-1,310 ft., and 1,381-1,407 ft., T.D. 1,416 ft., D.S.T. with packer at 1,385 ft., open 30 min., recovered mud and salt water, electrical log, 4½-in. 1,393 ft., perf. 1,290-1,310 ft., est. 6,000,000 cu. ft. gas, S.I.
Comanche County: Roe E. Cooper 1 Bowen, SE NW SE 29-2-9w, S.D. 1,702 ft.

Fireproof Your Steel Structures with VERMICULITE LIGHT WEIGHT CONCRETE

● **VERMICULITE fireproof concrete is an extremely light weight building material made like ordinary concrete except that specially graded granules of VERMICULITE insulation are used as aggregate in place of sand, gravel or stone. The VERMICULITE not only imparts lightness to concrete but also remarkably high insulating value. Physical characteristics of VERMICULITE light weight concrete follow:**

MIX BY VOLUME		Approximate Density in Lbs. Per Cubic Foot	Weight Per Square Foot 1" Thick in Pounds	Compressive Strength in Pounds Per Square Inch	Thermal Conductivity (K) Resistivity (R)	
Cubic Feet VERMICULITE Concrete Aggregate	Bags Portland Cement				K	R
10	1	22.0	1.83	115	0.69	1.45
8	1	24.0	2.00	140	0.72	1.39
6	1	26.5	2.20	165	0.755	1.32
5	1	30.0	2.50	240	0.805	1.24
4	1	35.0	2.91	340	0.88	1.14
3	1	41.0	3.41	465	0.965	1.04

31 cubic feet of Vermiculite when mixed with portland cement in any of mixes above will produce 27 cubic feet of placed concrete. If admix of "Aquapel" is added, there is no shrinkage and 27 cubic feet of Vermiculite aggregate will produce 27 cubic feet of placed concrete.

In addition to light weight concrete for monolithic insulation, we supply VERMICULITE for acoustical plaster, for use in refractory mixes for furnace linings and floors, and in plastic cement for insulating boilers or refinery columns.

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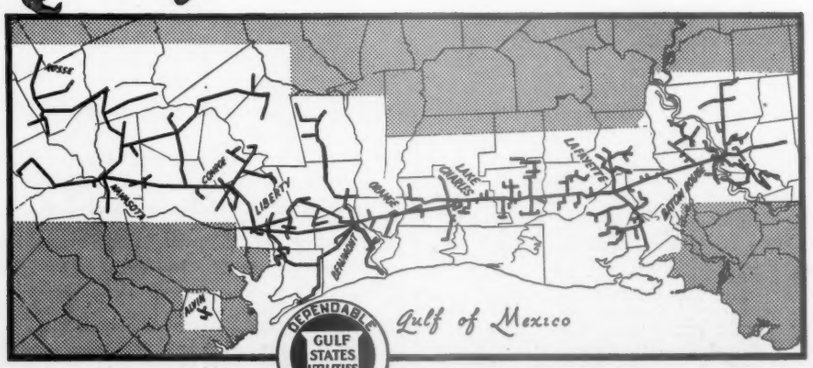

DEPENDABLE GULF STATES UTILITIES CO. PUBLIC SERVICE

General Offices:—Beaumont, Tex., and Baton Rouge and Lake Charles, La.

Texas 1 Gamble, SW NE SE 5-3-10w, Garber 490 ft., Wichita-Albany 690 ft., T.D. 866 ft.
Texas 1 State, SW SE NW 13-3-10w, Hennessy shale 370 ft., Garber 787 ft., drilling 1,795 ft. in shale.
Garvin County: Ohio 1 Freeman, SE SE 14-1-3w, gas 1,066-82 ft., cored hard lime 1,627-30 ft., cored brown shale 1,630-35 ft., drilling 2,100 ft.
Jackson County: Rhinehart & Donovan 1 Petzold, SE SE NE 20-3-20w, granite wash 1,098 ft., show gas 1,550-60 ft., lime 2,810-20 ft., show gas, drilling 3,460 ft. in Pontotoc.
Sanders 1 Gamble, SE SE 12-3-21w, S.D. 1,152 ft.
Mutual 1 Caves, NW NW NW 36-4-21w, 5-in. casing parted, fishing 1,640 ft.
Jefferson County: Gibson & Jennings 1 Wilson, NW NE 25-3s-5w, lime conglomerate 2,462 ft., drilling 2,820 ft.
Kiowa County: Thomasson 1 Baker, NW NE NW 7-6-18w, drilling by tools at 450 ft., T.D. 580 ft.
Stauffer 1 Mayo, NE NE NW 13-6-18w, shale 680-730 ft., drilling 730 ft.
Amerada 2 Boomer, NW SW NE 1-6-14w, S.D. 770 ft.
McWhirter-Hinnerman 1 Tracey, NE NE SE 2-7-19w, first report.
Walrick 1 Wayne, NE SE SE 2-7-18w, drilling 100 ft.
Stephens County: Louis Sikes 1 Dibrell, SE SE SW 16-1-8w, oil-stained sand 3,569-79 ft., drilling 4,017 ft. in shale.
Carl Carter 1 Peek, NE SE NE 1-3s-6w, S.D. 375 ft.

Payne County: Atlantic and Mid-Continent 1 O'Hara, S½ NE NW 18-17-2, second Wilcox 4,978 ft., water, to P.B. to test Hunton.
Pontotoc County: Bod Minnick 1 Adcock, SE NW NE 21-4-6, drilling 1,375 ft. in shale.
Pottawatomie County: Arab 1 Trausdale, NE NE NW 31-7-3, drilling 4,850 ft.
Lyons & Smith 1-B Stalnaker, SW NW SW 24-8-4, first report.
Stanolind-Amerada 1 J. W. Rowan, NE NW SW 20-9-4, T.D. 5,162 ft., perf. 4,748-54 ft., acid, water, may abandon.
SW NE 11-6-7, T.D. 1,500 ft., P.B. 1,488 ft. in
Seminole County: R. P. Tate 1-B Fleets-Osborn, SE Calvin, est. 30 bbl. oil a day and 35 bbl. water, testing.
Keener 1 Homestake, SW SW NW 28-7-7, T.D. 2,164 ft. in shale, Senora sand 2,124 ft., swabbed 62 bbl. oil in 24 hr., to shoot.
Deep Rock 1 Work, NE NE NE 20-8-8, T.D. 4,271 ft., perf. 3,204-15 ft. in lower Cromwell, flowed 31 bbl. oil a day and 36 bbl. water, 350 lb. C.P., tubing 3,234 ft., testing.
Stanolind-Amerada 1 Buck, NW SE NW 11-10-7, cored continuously 4,306-70 ft., show oil 4,362-80 ft. in Wilcox, D.S.T. 4,362-85 ft., recovered 80 ft. oil and 250 ft. oily mud, electrical log indicated oil in Cromwell (3,560 ft.) and first Wilcox (4,354 ft.), will test first Wilcox.

Barnsdall 1 Baker, NE SE NE 29-11-8, Sylvan 4,110 ft., Viola 4,200 ft., dense 4,240 ft., first Wilcox 4,267 ft., D.S.T. 4,260-79 ft., recovered salt water and mud, coring ahead 4,280 ft.
Wagoner County: V. V. Grant 1 Carter, NW NW NW 31-16-19, topped Arbuckle at 1,025 ft.

Texas Gulf Coast

(Continued from Page 101)

Grimes County: Oswego Oil Co. 1 Boney, T. Jones Sur., drilling shale 2,610 ft.
Jackson County: H. McCormick 1 I. F. Spencer, A. B. Williams Sur., top Frio 3,760 ft., drilling sandy shale 4,002 ft.
Christie & Dunnam 1 Pickering, P. S. Scott Sur., T.D. 601 ft., running 10¾-in. casing.
Lavaca County: Normandie Oil Co. 1 J. Smolik, M. Caldwell Sur., rigging up.
Matagorda County: Barnsdall 1 Doman, P. Burnett Sur., drilling shale 6,525 ft.
Montgomery County: Atlantic 1 Foster Lbr. Co., Fostoria area, drilling shale 10,130 ft.
Polk County: Pan American 1 Texas Long Leaf Lbr. Co., A. Viesca Sur., drilling shale 8,624 ft.
Tyler County: Stanolind 1 Parker, G. T. W. Collins Sur., T.D. 1,700 ft., running 10¾-in. casing.
Wharton County: Pure 1 H. P. Stockton, H. Mills Sur., T.D. 6,194 ft., running electrical log.

AVERAGE DAILY PRODUCTION

LEADING OKLAHOMA FIELDS

	Sept. 20	Sept. 13
Allen	4,150	4,150
Billings	6,100	6,150
Burbank	8,100	8,150
South Burbank	7,150	7,400
Balance Osage	17,700	18,150
Blackwell district	3,500	3,600
Bristow-Slick	6,400	6,450
Coyle	4,050	4,050
Crescent	1,500	1,550
East Cromwell	2,500	2,525
Cromwell	2,850	2,850
Cumberland	6,900	6,700
Cushing-Shamrock	8,925	8,975
Dill	3,100	3,075
Duncan	3,450	3,500
Edmond	3,150	3,175
Fish	4,200	4,150
Fitts	11,100	11,250
Jesse	1,950	1,950
Graham-Fox	2,100	2,250
Guthrie	3,550	3,800
Healdton	8,400	8,450
Hewitt	16,750	16,250
Keokuk	2,900	2,925
Konawa	975	950
Lucien	5,650	5,700
Moore	925	950
Northeastern counties	17,150	17,650
Oklahoma City	88,550	76,350
Olympic	1,550	1,575
Ramsey	4,500	4,500
Sasakwa	900	925
Sholem-Alechem	2,350	2,450
Stroud, East	2,750	3,200
Seminole district:		
Bowlegs	6,000	6,050
Carr City	2,175	2,175
Dora	1,150	1,150
Earlsboro	3,600	3,600
East Earlsboro	1,625	1,625
South Earlsboro	475	475
Little River	6,425	6,400
East Little River	650	625
Mission	1,200	1,200
Seminole	6,000	6,000
East Seminole	875	850
Searight	1,700	1,650
Total Seminole	31,825	31,800
St. Louis-Pearson	17,250	17,200
Tatums-Tussy	5,100	5,350
Wewoka	1,525	1,550
Yale-Jennings	3,250	3,300
Total Oklahoma	422,250	417,300

North and Central

Creek County: Deep Rock 1 Lewis Meadvis, SE NW NE 16-15-7, drilling 2,745 ft.
Grant County: Texas 1 Breinholt, E½ NW SW 36-25-3w, Mississippian 4,800 ft., drilling 5,086 ft.
Hughes County: Bailey 1 N. Williams, SW SW NE 14-9-10, drilling 3,620 ft.
Kay County: McKnabb 1 School Land, SE SE SW 13-27-2, first report.
Lincoln County: Mid-Continent 1 Evans Land, SW SE NW 31-14-6, T.D. 4,844 ft. in second Wilcox, ran electrical log, may test Hunton.
Fred Haddock 1 Hert, SW NE SE 22-17-3, drilling 2,800 ft.
Logan County: Helmerich & Payne 1 Knox, SE SE SW 4-15-1, first report.
Deep Rock 1 Murphy, NW NW SE 11-17-2w, Bartlesville 5,202-19 ft., Mississippian 5,219 ft., Woodford 5,335 ft., cored sand with odor and stain 5,202-15 ft., coring 5,250 ft.
Magnolia 1 Patterson, NW SE NW 29-15-1w, Perry gas sand 4,051 ft., cored dry sand 4,055-65 ft., base sand 4,075 ft., drilling ahead.
Harry Miller 1 Katschor, NE SW 7-16-2w, dense 5,555 ft., dolomite 5,585 ft., cored 5,600-20 ft., recovered dense lime with odor, cored 5,650-55 ft., lost circulation, recovered dense dolomite, stain in samples at 5,690 ft., cored green shale 5,690-95 ft., fishing at 5,123 ft.
Muskogee County: France Paris 1-A Clark, E½ SE NE 32-13-19, first report.
Pine 1 Lacey & Steel, SE NE NW 24-13-17, S.D. 2,365 ft.
Okfuskee County: Helmerich & Payne 1-A Williams, NW NW SE 16-11-9, Calvin 1,495 ft., drilling 2,680 ft.
John Droppleman 1 Yahola, NE NE SW 15-11-10, drilling 1,002 ft.
Beal & LeVieux 1-A Allen, NE SW NE 14-13-9, S.D. 2,030 ft.

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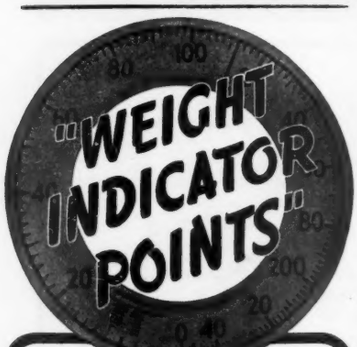

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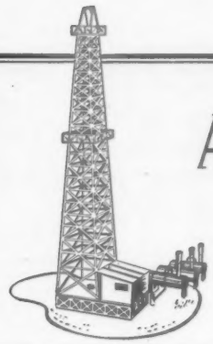


Among the Drilling

TRINITY Drilling Co. is rebuilding rotary derrick at 1 Dan Auld, Lynn County, Texas, wildcat 14 miles west of Tahoka. The derrick collapsed as operator was pulling drill pipe. Sixteen strands of pipe were left hanging in the top of the hole. Heavy rains were credited with softening the ground, causing the foundation under one leg of the derrick to give way. No. 1 Auld had drilled to 4,900 ft. It is located in the NE SW Section 0, Block E, E.R. Survey.

R. H. DEARING & SON, Dallas, Tex., contracting firm, is starting a 6,000-ft. Ellenburger test near Saint Jo in Montague County, North Texas, for R. L. Foree of Dallas and Lou Stogner, Fort Worth, Tex., independent operators. The deep test is on the C. D. Meador farm in the south corner of the J. B. Miller Survey. Magnolia Petroleum Co. and Continental Oil Co. have purchased spreads in the block.

GEO. P. LIVERMORE, Inc., contractor and operator of Midland, Tex., is drilling below 6,311 ft. in hard lime at 1 J. E. Rice, Lynn County, Texas, wildcat. No. 1 Rice is 660 ft. out of the northwest corner of Section 18, Block 11, E.L. Survey.

BALDRIDGE & KING, McAllen, Tex., received contract for an 8,700-ft. test to be drilled in southern Hidalgo County, Texas, for the La Gloria Corp. The well is 1 W. T. Adams in the Riverside subdivision near the town of McAllen.

C. T. McLAUGHLIN, of Midland, Tex., is drilling below 4,449 ft. at Shell Oil Co., Inc. 1 J. H. Vaughn, scheduled 7,500-ft. Ordovician wildcat in southwestern Fisher County, Texas. Previously 10-in. casing had been cemented at 2,075 ft. The test is located 467 ft. from the north and 1,787 ft. from the west lines of Section 205, Block 3, H.&T.C. Survey.

NICKLOS Drilling Co., Houston, Tex., has started a new operation in the Ville Platte field, Evangeline Parish, Louisiana, where three rotaries are running for the Continental Oil Co.

O'DONOHOE & GIBSON have shut down at the Tom B. Medders 1 J. W. Daws, southwest Young County, Texas, Ellenburger test after perforating casing from 3,700 to 3,708 ft. and recovering only salt water. The test is bottomed at 4,920 ft. It is located in the center of NW Section 750, T.E.&L. Survey, on a 9,000-acre block.

C. E. O'NEAL, Evansville, Ind., has started drilling A. W. Cherry and Barron Kidd 1 R. L. Gardner, SE SE SE 24-3s-7e, Hamilton County, Illinois, which is an attempt to extend the Mill Shoals pool of White County to the northwest.

HALLANDSWORTH Drilling Co. of Longview, Tex., has ceased drilling operations at the William Bradley 1 Robinson, Upshur County, Texas, Woodbine wildcat after finding the sand dry at 4,636 ft. The top of the Austin chalk was logged at 4,039 ft. and the top of the Woodbine at 4,320 ft. No. 1 Robinson is located 2,400 ft. from the west and 5,075 ft. from the north lines of the John Sanders Survey.

HALKO Drilling Co., Shawnee, Okla., has the contract for C. U. Bay 1 Townsdin, SE NE SE 14-18-3, Payne County, Oklahoma, a wildcat near the Northeast Mahan (Rattlesnake) pool. Operators expect to test the Wilcox sands at about 4,250 ft. Halko also will drill Fidelity Royalty, Phillips Petroleum Co. et al 2 Edward Starr, NE SE SW 7-15-8, a north offset to the discovery well of the Depew extension in Creek County, Oklahoma.

MOHAWK Drilling Co., Tulsa, has started F. R. McQuigg et al 1 Mack Uhls, NE SE NW 5-6s-2e, Franklin County, Illinois. The company holds an interest in the test, a wildcat, which is to go to the McClosky unless a commercial well is found higher.

GLENN H. McCARTHY, Houston, Tex., is making arrangements to cement casing for a production test in his 1 Sayle, which has shown promise of opening Wilcox sand production in the Magnolia area, Montgomery County, Texas. Total depth of the hole is below 9,500 ft., and several sand sections in the Wilcox topped at 8,220 ft. carried oil and gas shows.

OLSON Drilling Co., Tulsa, are drilling Harry A. Miller 1 Katschor, N½ NE SW 7-16-2w, on the outskirts of the town of Guthrie in Logan County, Oklahoma, a test which has been expected to open an important new pool about 8 miles southwest of the new Guthrie pool.

CRON & GRACEY, Houston, Tex., have apparently opened a new field for Jackson County, Texas, as Moore & Ahern 1 Burdett, 2 miles east of the Texana field, recovered pipe-line oil on a drill-stem test in the Marginulina sand, and the well is drilling ahead for additional sands in the Frio.

FALCON-SEABOARD Drilling Co., Houston, Tex., has one rig running in the Fig Ridge field, Chambers County, Texas, for the Sun Oil Co., while in the Ville Platte field, Evangeline Parish, Louisiana, one operation is reported for the Gulf Refining Co.

W. L. GOLDSTON, Houston, Tex., is preparing to cement casing in his 1 Coyle, a wildcat located south of the town of Needville in Fort Bend County, Texas. Total depth of the well is 6,463 ft., and a production test of the Marginulina and Frio sands is scheduled to be made. Drill-stem testing in both sand sections the previous week showed promise of gas-distillate production.

SAM JEWELL, Ada, Okla., drilled Blackwell Oil & Gas and W. A. Delaney 1 H. K. Riddle, NW NW NE 9-3n-5e, a wildcat southwest of Ada in Pontotoc County, Oklahoma, to 1,542 ft. in 62 hours. The well topped the Cromwell sand zone at 858 ft. and was being perforated in that zone through 7-in. casing in an attempt to open a new gas field.

M. B. WALKER, Mission, Tex., received contract from H. J. Porter and W. L. Pickens for 1 Arcadio Guerra, a projected 6,200-ft. wildcat located in Share 6, San Jose grant, near the La Reforma gas-distillate field, Starr County, Texas.

McCULLOCH Drilling Co., Tyler, Tex., was drilling below surface casing on Longhorn Oil Corp. 1 Sever, SW SW 26-3n-2e, in Jefferson County, Illinois, a wildcat about 3 miles due east of Mount Vernon city limits. The test is to be carried to the McClosky lime.

CREEKMORE Drilling Co., Tulsa, has drilled six wells for Tyson Dines, Russell Volk, William H. Porter et al of Denver, Colo., in and near the Zenith pool, Stafford County, Kansas. The last one to be completed, Tyson Dines 2 Hunter, E½ NW NW 18-24-10w, was given a bottom-hole bomb test capacity of 22,525 bbl. a day.

Contractors

The group is also drilling 1 Blackburn, NW NE 18-24-11w, midway between Zenith and Stafford pools, which may make a well in the Viola.

BREWSTER-BARTLE Drilling Co., Houston, Tex., is attempting to extend production to the north as a production test is being made on a well for Navarro Oil Co. Another operation is reported for the same company in the Hawkins field, while in Brazoria County, Texas, Skelly 1 Viemann, a wildcat operation, is drilling below 7,000 ft.

ED MEREDITH, Reed City, Mich., contractor for Louise Rose 1 Skidmore, S½ SE SE, Section 15, Pinora, 3 miles northwest of production at the Reed City, Michigan, pool, spudded the test August 30, and 14 days later had landed 817 ft. of 10-in. casing and was drilling ahead at 1,000 ft.—unusually good time for operations in the field.

ALLEN & MORRIS are moving in rig to drill a 7,500-ft. wildcat 1½ miles northeast of Banquete, Tex. The well is W. B. Osborn and Mid-Continent Petroleum Corp. 1 Emil Grove, Block 63, of Paul's 100-acre subdivision of Driscoll ranch.

BELL & LOFFLAND, INC., Los Angeles, Calif., has been awarded the contract by Sam B. Herndon and associates to drill 1 Bottoms, a wildcat located near the Raisin City strike in Fresno County, California.

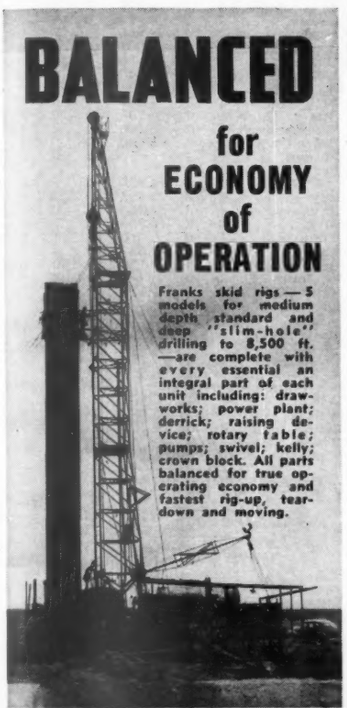
RHODES Drilling Co., Abilene, Tex., is testing and attempting to complete 1 Mrs. S. M. Greer heirs for the account of Merry Brothers & Perini between the Novice and Goldsboro fields in northern Coleman County, Texas. The Gray sand showing oil saturation was topped at 3,909 ft. Sand was cored from 3,913 to 3,937 ft. Original contract called for drilling to the Ellenburger lime.

GEORGE CALLIHAN, Albany, Tex., contractor, has started drilling on 1 E. M. Wahlenmaier, a Crosby County, Texas, wildcat operation in which he is associated with C. L. Wagner. The test is in Section 3, Block D-15, W. T. Survey and contract calls for drilling to 3,200 ft.

WESTERN Drilling Co., Ltd., Los Angeles, Calif., has completed a producing well on the Twin Rivers structure in southern Alberta, Canada, for E. L. Cord, Indianapolis, Ind., automobile manufacturer. The well was completed for 175 bbl. daily at 3,953 ft. in the Madison lime. Two months ago the drilling company completed a well for Mr. Cord in the Vermilion field which is capable of producing about 100 bbl. daily of 15° crude.

DRILLING & EXPLORATION CO., INC., Dallas, Tex., has completed two new wells on its acreage in the Wasson field of southern Yoakum County, Texas.

ADDISON Drilling Co., Midland, Tex., has moved its cable-tool rig to location for Culbertson & Irwin, Inc., Midland, 1 Welch permit, 660 ft. from the north and 1,980 ft. from the west lines of 31-19s-34e, Lea County, New Mexico. Contract calls for drilling to 3,500 ft.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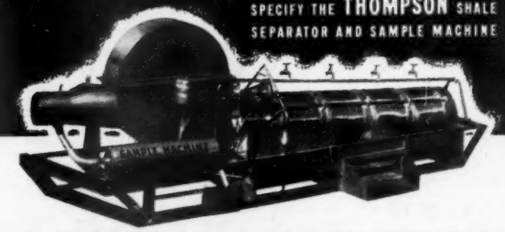

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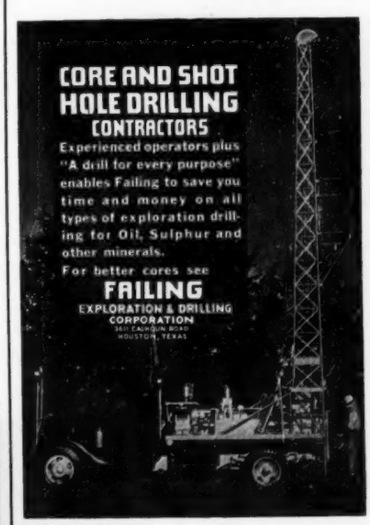
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HOUSTON, TEXAS

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STANDCO BRAKE LINING
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STANDCO BRAKE LINING CO.
HOUSTON, TEXAS

Summary of Operations, All Fields for August

SUMMARY OF COMPLETIONS

District—	Comp.	Oil	Prod.	Gas	Dry	Completions Under 1,000 ft.	1,000-2,500 ft.	2,500-5,000 ft.	5,000-10,000 ft.	Over 10,000 ft.	Footage	Drilling
Appalachian	599	465	527	107	27	12	502	76	0	0	1,298,325	672
Ohio	137	35	718	60	42	39	52	43	3	0	260,195	244
Indiana	44	22	2,283	4	18	10	18	16	0	0	83,455	76
E. Kentucky	40	8	53	30	2	0	12	28	0	0	120,930	91
W. Kentucky	36	15	186	1	20	24	12	0	0	0	31,430	47
Michigan	71	34	32,038	8	29	2	39	30	0	0	159,537	160
Illinois	351	277	108,329	0	74	14	147	190	0	0	867,954	402
Kansas	204	150	137,441	7	47	1	23	178	2	0	645,313	262
Nebraska	9	6	2,312	0	3	1	6	2	0	0	21,382	25
Missouri-Iowa	0	0	0	0	0	0	0	0	0	0	0	3
Oklahoma	225	138	28,288	11	76	17	69	114	25	0	704,346	330
North Texas	187	127	21,721	1	59	36	75	73	8	0	468,706	170
W. Central Texas	63	29	2,784	5	29	14	32	17	1	0	131,807	74
N. West Texas	113	106	98,911	0	7	0	3	40	66	0	550,293	111
S. West Texas	95	79	100,876	2	14	1	21	64	11	0	359,430	102
Texas Panhandle	69	63	12,693	5	1	0	5	64	0	0	208,943	73
East Texas	71	56	7,763	2	13	1	2	61	7	0	294,256	81
E. Texas Border	3	1	15	1	1	1	0	2	0	0	9,960	8
Upper Gulf Coast	101	72	16,286	3	26	0	1	20	75	5	631,674	154
Lower Gulf Coast	87	64	9,663	5	18	0	0	15	71	1	523,605	90
S. Central Texas	28	9	176	0	19	9	13	4	2	0	52,541	31
South Texas	83	49	5,860	4	30	1	25	50	7	0	288,270	73
Southeast New Mexico	20	10	2,528	1	9	1	4	14	1	0	66,674	71
Arkansas	18	4	444	5	9	0	8	3	7	0	93,058	26
North Louisiana	75	45	4,482	9	21	6	32	26	11	0	211,341	87
Louisiana Gulf	70	54	11,699	1	16	0	3	7	42	18	537,090	144
Mississippi	26	21	11,112	1	4	0	1	13	12	0	137,463	34
Alabama	0	0	0	0	0	0	0	0	0	0	0	4
Georgia	0	0	0	0	0	0	0	0	0	0	0	2
Montana	30	19	3,861	7	4	1	19	10	0	0	59,413	90
Wyoming	28	18	7,457	3	7	4	9	9	6	0	85,782	79
Colorado	3	2	275	1	0	1	1	0	1	0	9,294	38
Utah	0	0	0	0	0	0	0	0	0	0	0	7
N. W. New Mexico	4	3	158	1	0	0	4	0	0	0	6,719	13
California	101	76	62,252	3	22	2	11	44	37	7	549,585	163
Total August	2,991	2,057	693,191	288	646	198	1,145	1,213	404	31	9,468,789	4,037
Total July	3,165	2,180	692,556	294	691	243	1,295	1,192	404	31	9,412,948	4,240
Difference	174	123	635	6	45	45	150	21	0	0	45,841	203

APPALACHIAN

	Comp.	Oil	Prod.	Gas	Dry	Dlg.
Bradford	291	*291	284	0	0	209
Alleghany	140	†140	104	0	0	83
N. Oriskany.	5	0	0	2	3	13
Middle dist.	23	17	12	5	1	27
Butler-Armstrong	10	3	7	2	5	12
S. W. Penna.	43	0	0	39	4	86
W. Virginia	87	14	120	59	14	242
Ttl. Aug.	599	465	527	107	27	672
Ttl. July	624	482	626	119	23	744
Difference	25	17	99	12	4	72

*Includes 151 water input wells.
†Includes 73 water input wells.

OHIO

Ashland	6	1	15	0	5	9
Allen	1	1	8	0	0	0
Auglaize	1	0	0	0	1	1
Athens	16	3	4	9	4	16
Cuyahoga	1	0	0	0	1	3
Fairfield	1	0	0	1	0	2
Guernsey	2	0	0	1	1	4
Harrison	1	0	0	0	1	5
Hocking	2	1	1	1	0	6
Holmes	3	0	0	3	0	5
Jefferson	3	1	1	0	2	2
Knox	3	0	0	1	2	14
Lawrence	3	0	0	3	0	4
Licking	15	3	26	9	3	26
Lorain	3	0	0	0	3	4
Medina	14	7	35	3	4	10
Meigs	7	0	0	5	2	9
Mercer	1	1	1	0	0	0
Monroe	5	1	1	4	0	11
Morgan	5	1	4	2	2	9
Muskingum	6	0	0	2	4	19
Noble	7	4	3	3	0	12
Perry	10	7	610	1	2	16
Richland	1	0	0	1	0	0
Seneca	1	0	0	0	1	0
Stark	2	0	0	1	1	7
Tuscarawas	2	0	0	2	0	9
Vinton	1	0	0	1	0	2
Washington	13	4	9	6	3	16
Wayne	1	0	0	1	0	6
Miscellaneous	0	0	0	0	0	17
Ttl. Aug.	137	35	718	60	42	244
Ttl. July	142	29	722	63	50	241
Difference	5	6	4	3	8	3

Gas, 38,000,000 cu. ft.; recompletions, 2; input wells, 5 (2,206 ft.).

INDIANA

Bufkin & S.	3	3	418	0	0	5
Cannelburg	1	1	15	0	0	1
E. Calvin	3	3	803	0	0	6
Griffin & S.	12	10	974	0	2	20
Heusler	3	2	36	0	1	1
Hudsonville	2	0	0	1	1	0
Oakland	1	0	0	0	1	0
St. Thomas	1	0	0	0	1	0
Somerville	1	0	0	0	1	0
Trenton	2	0	0	2	0	0
Troy	1	0	0	0	1	1
Veale	1	1	19	0	0	2
Wildcats	13	2	18	1	10	30
Miscel.	0	0	0	0	0	10
Ttl. Aug.	44	22	2,283	4	18	76
Ttl. July	63	35	4,565	6	22	78
Difference	19	13	2,282	2	4	2

EASTERN KENTUCKY

	Comp.	Oil	Prod.	Gas	Dry	Dlg.
Floyd	12	0	0	11	1	20
Knott	5	0	0	5	0	19
Martin	7	2	25	5	0	9
Pike	7	0	0	7	0	27
Magoffin	2	1	3	0	1	2
Johnson	2	0	0	2	0	8
Lee	0	0	0	0	0	1
Powell	5	5	28	0	0	3
Knox	0	0	0	0	0	2
Ttl. Aug.	40	8	53	30	2	91
Ttl July	47	12	61	31	4	96
Difference	7	2	8	1	2	5

Gas production: 17,360,000 cu. ft.

WESTERN KENTUCKY

Ballard	0	0	0	0	0	1
Breckenridge	1	0	0	0	1	1
Butler	1	1	15	0	0	2
Daviess	8	6	92	0	2	13
Hancock	2	1	10	0	1	2
Henderson	5	3	72	0	2	3
Hopkins	0	0	0	0	0	1
Logan	0	0	0	0	0	1
McCracken	0	0	0	0	0	1
McLean	2	1	500	0	5	3
Muhlenberg	2	0	0	1	1	4
Ohio	10	3	97	0	7	11
Union	1	0	0	0	1	2
Webster	0	0	0	0	0	2
Ttl. Aug.	36	15	786	1	20	47
Ttl. July	33	16	956	0	17	41
Difference	3	1	170	1	3	6

MICHIGAN

Allegan	10	3	60	0	7	17
Arenac	4	2	2,185	1	1	6
Barry	1	0	0	0	1	1
Bay	5	4	363	0	1	9
Cass	2	1	30	0	1	4
Cheboygan	1	0	0	0	1	0
Clare	6	5	2,606	0	1	12
Gladwin	1	1	160	0	0	2
Gratiot	1	0	0	0	1	1
Isabella	4	0	0	2	2	7
Kalamazoo	1	0	0	0	1	0
Kent	2	1	5	0	1	6
Mason	1	0	0	1	0	1
Midland	1	1	220	0	0	1
Montcalm	3	1	10	1	1	1
Montmorency	1	0	0	0	1	1
Osceola	14	9	25,814	3	2	34
Otsego	1	0	0	0	1	1
Ottawa	4	3	85	0	1	2
Shiawassee	1	0	0	0	1	0
Van Buren	7	3	500	0	4	15
Miscel.	0	0	0	0	0	39
Ttl. Aug.	71	34	32,038	8	29	160
Ttl. July	78	34	43,234	7	37	140
Difference	7	0	11,196	1	8	20

ILLINOIS

Albion	4	4	2,282	0	0	1
Allendale	9	4	144	0	5	11
Barnhill	1	0	0	0	1	0
Benton	24	23	5,365	0	1	8
Bone Gap	1	1	313	0	0	0
Boos and N.	14	13	5 579	0	1	5
Boyleston	1	1	703	0	0	3
Casey	1	0	0	0	1	1
Centralia	2	2	200	0	0	0
Clay City and S.	4	3	460	0	1	6
Dahlgren	2	1	220	0	1	1
Dale	17	17	6,539	0	0	17
Dundas	2	2	494	0	0	2
Dupo	3	3	402	0	0	0
E. Calvin	8	7	543	0	1	9
Enterprise, N. and W.	10	10	2,596	0	0	5
Fairman	1	1	11	0	0	0
Griffin	5	4	1,010	0	1	0
Hoodville	7	5	1,472	0	2	4
Inman	1	1	95	0	0	3
Irvington	4	3	146	0	1	1
Johnsonville	23	23	46,433	0	0	34
Louden	27	22	3,166	0	5	24
Martinsville	1	1	8	0	0	0
Mason	3	3	591	0	0	4
Maunie	1	0	0	0	1	0
Mount Carmel	20	18	2,886	0	2	15
North New Harmony	29	29	4,556	0	0	23
New Haven	1	1	90	0	0	1
Noble	1	0	0	0	1	0
Olson	1	0	0	0	1	0
Omaha	1	1	480	0	0	1
Patoka and E	3	2	44	0	1	1
Phillipstown	1	1	50	0	0	2
Rising Sun	16	14	1,986	0	2	14
Robinson	1	1	6	0	0	0
Roland	13	12	2,972	0	1	10
Sailor Springs	3	2	619	0	1	9
St. James	1	0	0	0	1	1
Salem	1	1	74	0	0	2
Siggins	1	1	2	0	0	0
S. Griffin	1	1	200	0	0	0
Storms	2	2	347	0	0	4
Walpole	2	2	798	0	0	3
Wells	2	2	103	0	0	0
West Irons	2	2	115	0	0	3
W. Liberty	3	3	1,050	0	0	2
Woodlawn	14	14	7,687	0	0	39
Wildcats	52	10	4,457	0	0	90
Misc.	4	4	1,035	0	0	43
Ttl. Aug.	351	277	108,329	0	74	402
Ttl. July	389	281	58,405	2	106	358
Difference	38	4	49,924	2	32	44

KANSAS

Abbeyville	1	1	180	0	0	1
Ainsworth	1	0	0	0	1	1
NW. Ainsworth	1	1	50	0	0	2
Albert	1	1	208	0	0	1
Augusta	2	2	123	0	0	2
Bitikofer	1	0	0	0	1	0
Bemis	3	3	6,289	0	0	4
Beaver	3	3	352	0	0	1
Big Creek & S.	2	2	101	0	0	7
E. Big Creek	1	1	60	0	0	0
Bedford	1	1	1,772	0	0	2
Bloomer	1	1	2,879	0	0	5
Brandt	0	0	0	0	0	1
Breford	1	1	108	0	0	0
Burnett	7	7	12,379	0	0	7
Cairo	1	0	0	0	1	0
SW. Catherine	1	1	69	0	0	0
Campbell	1	1	57	0	0	0
Chase	5	5	3,187	0	0	5
Couch	1	1	882	0	0	0
Coralena	0	0	0	0	0	4
Cunningham	3	3	6,000	0	0	5
Dayton	1	0	0	0	1	0
Donavon	1	1	53	0	0	1
Doran	1	1	54	0	0	1
Dubuque	2	1	291	0	1	3
Edwards	1	1	3,000	0	0	2
El Dorado	5	5	175	0	0	2
N. Ellinwood	1	0	0	0	1	0
Frog Hollow	1	1	1,260	0	0	4
Geneseo	0	0	0	0	0	4
Gibson	1	1	389	0	0	1
Gorham	2	2	829	0	0	3
Graber	1	1	243	0	0	1
Greenvale	2	2	3,277	0	0	5
Hall-Gurney	9	9	7,705	0	0	13
Haverhill	2	1	35	0	1	1
Henne	1	1	314	0	0	0
Hoffman	1	1	49	0	0	0
Hugoton	1	0	0	1	0	3
Karber	1	0	0	0	1	0
Keesling	1	1	621	0	0	1
Keighly	1	1	293	0	0	0
Koblitz	1	1	252	0	0	0
Kraft & W.	4	2	2,258	0	2	6
Laton	2	2	614	0	0	3
Letch	1	1	805	0	0	0
Lost Springs	2	1	301	0	1	4
Max	1	0	0	0	1	0
McLouth	9	1	40	6	2	13
Niedenthal	1	1	654	0	0	0
Orth	1	1	342	0	0	0
Otis	1	1	761	0	0	0
Pawnee Rock	5	5	6,186	0	0	4
Peace Creek	1	1	3,000	0	0	4
Potwin	1	1	20	0	0	0
Prussa & W. & S.	5	5	4,995	0	0	0
Ray	3	3	2,493	0	0	6
Raymond	4	4	4,755	0	0	5
Rick	3	2	6,000	0	1	0
Riley	1	0	0	0	1	0
Rock	2	2	583	0	0	0
Rush	1	1	126	0	0	0
St. John	2	0	0	0	2	0
Shutts	2	2	1,110	0	0	0
Silica & S. & W.	14	12	12,425	0	2	11
Stoltenburg	2	2	761	0	0	1
Susank	1	1	96	0	0	0
Trapp	9	8	7,136	0	1	9
S. Trapp	1	1	309	0	0	0
W. Trapp	1	1	82	0	0	0
Wilcutt	1	1	660	0	0	0
Wilkins	3	2	3,384	0	0	0
Zenith	9	9	22,195	0	0	8
Miscel.	7	3	47	0	0	50
Wildcats	29	6	1,767	0	23	45
Ttl. Aug.	204	150	137,441	7	47	262
Ttl. July	206	140	135,318	8	58	269
Difference	2	10	2,123	1	11	7

NEBRASKA

Falls City	4	4	2,285	0	0	6
Shubert	2	2	227	0	0	4
Wildcats	3	0	0	0	3	15
Ttl. Aug.	9	6	2,512	0	3	25
Ttl. July	7	4	3,852	0	3	27
Difference	2	2	1,340	0	0	2

OKLAHOMA

Altus	1	0	0	0	1	5
West Arno	2	1	50	1	0	1
Avoca	2	2	520	0	0	3
E. Bebee*	2	2	55	0	0	2
N. Bebee	4	4	874	0	0	5
So. Burbank	1	1	150	0	0	0
Cement	6	5	2,297	0	1	9
Chickasha	1	0	0	1	0	2
Coyle	1	1	375	0	0	0
E. Cromwell	6	6	4,285	0	0	13
Cumberland	3	3	814	0	0	9
Dill	1	1	170	0	0	5
So. Dill	0	0	0	0	0	2
W. Earlsboro	8	8	1,319	0	0	1
Fish	2	2	70	0	0	1
W. Frederick	2	2	321	0	0	1
Guthrie	6	6	1,927	0	0	6
W. Hewitt	8	8	3,124	0	0	7
Hobart	5	2	234	0	3	1
W. Hotulke	1	1	454	0	0	10
Isom Springs	2	2	109	0	0	0
Knox	3	2	38	0	1	1
Little River district	1	1	428	0	0	2
Lovell	1	0	0	1	0	0
Mason	2	1	46	0	1	0
Okemah district	2	1	10	0	1	4
Oklahoma City	6	6	1,269	0	0	14
Orlando	1	1	240	0	0	0
Otoe City	1	0	0	0	1	2
Ramsey	1	1	2,888	0	0	0
Rattlesnake*	1	1	110	0	0	0
Sac & Fox	1	1	15	0	0	0
N. Shawnee	1	0	0	0	1	0
St. Louis	2	2	765	0	0	6
E. St. Louis	2	2	390	0	0	5
N. St. Louis	3	3	622	0	0	3
E. Stroud	9	9	544	0	0	3
Tecumseh Lake	1	1	357	0	0	3
E. Tecumseh	2	2	970	0	0	3
Tussy	4	2	71	0	2	5
Velma	3	2	66	0	1	2
Weleetka	4	2	145	0	2	3
Miscellaneous:						
Carter	5	4	213	0	1	6
Creek	8	6	212	1	1	10
Hughes	3	1	580	0	2	3
Latimer	1	0	0	1	0	1
Lincoln	1	0	0	1	0	4
McIntosh	2	0	0	2	0	3
Muskogee	2	0	0	1	1	4
Okmulgee	6	3	84	1	2	11
Okfuskee	3	3	88	0	0	4
Osage	13	9	214	0	4	10
Pawnee	2	1	8	0	1	2
Pontotoc	5	4	58	0	1	5
Seminole	9	6	461	0	3	9
Stephens	6	3	139	0	3	7
Tulsa	1	0	0	0	1	11
Wagoner	3	0	0	1	2	9

	Comp.	Oil	Prod.	Gas	Dry	Dig.
Other	1	1	4	0	0	21
Wildcats	39	0	0	0	39	71
Ttl. Aug.	225	138	28,188	11	76	330
Ttl July	206	140	135,318	8	58	269
Difference	9	2	107,130	3	18	61

NORTH CENTRAL TEXAS

NORTH TEXAS

Antelope	4	4	1,550	0	0	3
Bowers	1	0	0	0	1	0
Bryson	3	2	644	0	1	3
Fargo	3	3	1,010	0	0	4
Hull-Silk	16	12	1,814	0	4	12
Hults-Owens	1	1	900	0	0	0
Kadane	2	1	190	0	1	1
K.M.A. and Deep	36	32	10,220	0	4	25
Nocona	4	4	49	0	0	2
Olney	16	5	46	0	11	12
Rogers & Rogers	1	1	250	0	0	0
Voth	3	3	55	0	0	1
Walnut Bend	4	4	750	0	0	2
Wildcats*	15	3	495	0	12	34
Unlisted fields	0	0	0	0	0	10
Miscellaneous:						
Archer	14	7	137	0	7	10
Baylor	2	2	166	0	0	1
Clay	28	20	1,140	0	8	19
Cooke	7	7	213	0	0	5
Montague	1	1	77	0	0	2
Throckmorton	3	3	79	0	0	1
Wichita	10	5	595	0	5	15
Wilbarger	2	2	28	0	0	2
Jack	2	1	24	0	1	3
Young	9	4	1,289	1	4	4
Subtotal	187	127	21,721	1	59	170

*Hamilton-Cartwright, Archer County; Dorian-Daniels, Young County; Golden-Texas Joint Stock Land Bank "B," Clay County.

WEST CENTRAL TEXAS

Akard	3	3	385	0	0	2
Brownwood gas	2	0	0	1	1	1
Bluff Creek	2	1	71	0	1	2
Carbon	1	1	10	0	0	1
Cook	1	1	75	0	0	1
Cross Cut	2	1	5	0	1	1
Hamby	1	1	60	0	0	1
Harvey	1	1	82	0	0	0
Lewis	5	2	241	0	3	3
Loving	2	2	278	0	0	1
Novice	1	1	40	0	0	1
Salt Creek	1	0	0	0	1	0
Sayles	1	1	40	0	0	1
Strawn	1	0	0	0	1	0
View	1	1	51	0	0	1
Wimberly	1	1	300	0	0	1
Wildcats*	27	6	840	3	18	39
Unlisted fields	0	0	0	0	0	16
Misc. fields:						
Shackelford	7	5	259	0	2	5
Stephens	2	0	0	1	1	1
Taylor	1	1	47	0	0	1
Subtotal	63	29	2,784	5	29	74
Ttl. Aug.	250	156	24,505	6	88	244
Ttl. July	312	199	41,529	1	112	275
Difference	62	43	17,024	5	24	31

*Ungren-Dyer, Shackelford County
Stutenrouth-Kirk, Comanche County
McCreedy-Kelton, Callahan County
States-Hudson, Coleman County
Andrade-Walls, Stephens County (gas)
States-Featherstone, Coleman County
Crites-Hedricks, Haskell County (gas)
Roark-Elliott, Shackelford Co. (gas).

WEST TEXAS

NORTHERN WEST TEXAS

Cedar Lake	6	5	3,400	0	1	3
Dockery-Robbins	2	1	216	0	1	1
Dodge-Denman	1	1	233	0	0	0
Emma	2	2	2,450	0	0	2
Means	1	1	783	0	0	1
Seminole	3	3	1,196	0	0	3
Sharon	2	2	338	0	0	1
Slaughter	72	71	78,580	0	1	60
Wasson	20	20	11,715	0	0	19
Wildcats	4	0	0	0	4	13
Miscellaneous	0	0	0	0	0	8
Subtotal	113	106	98,911	0	7	111

SOUTHERN WEST TEXAS

Abell	6	5	4,816	1	0	12
Baker-Republic	3	3	1,027	0	0	1
Crockett	1	1	172	0	0	0
Cowden	3	3	1,016	0	0	1
Dunes	2	2	2,038	0	0	1
Estes	1	0	0	0	1	1
Foster	3	3	1,086	0	0	4
Goldsmith and North	6	6	5,583	0	0	7
Halley	1	0	0	0	1	0
Hutchins	1	1	210	0	0	1
Johnson	14	14	51,946	0	0	12
Jordan	2	2	4,895	0	0	3
Lehn	2	2	232	0	0	1
Keystone	9	9	3,209	0	0	9
McCamey	3	2	347	0	1	1
McElroy	2	2	1,636	0	2	2
N. Cowden	5	5	1,663	0	0	4
Noelke	1	1	989	0	0	1
O'Brien	3	3	1,775	0	0	1
Pecos Valley	1	1	1,436	0	0	0
Sealy	1	0	0	0	1	1
Sand Hills	2	2	897	0	0	3
Shearer	1	1	87	0	0	0
Tobarg	1	1	4	0	0	2
Waddell	4	4	14,798	0	0	2
World	4	4	1,011	0	0	2
White & Baker	3	2	232	0	1	3
Wildcats	10	0	0	1	9	12
Misc.	0	0	0	0	0	15
Subtotal	95	79	100,876	2	14	102
Ttl. Aug.	208	185	199,787	2	21	213
Ttl. July	263	245	220,493	1	17	259
Difference	55	65	11,706	1	4	46

TEXAS PANHANDLE

Carson	3	2	150	1	0	9
Gray	29	27	5,758	1	1	20
Hutchinson	29	28	6,458	1	0	30
Moore	2	0	0	2	0	5
Wheeler	6	6	327	0	0	9
Ttl. Aug.	69	63	12,693	5	1	73
Ttl. July	83	77	13,625	2	4	88
Difference	14	14	932	3	3	15

EASTERN TEXAS

East Texas:						
Longview	14	14	*722	0	0	11
Kilgore	16	15	571	0	1	10
Joiner	2	2	60	0	0	4
Cayuga	2	2	371	0	0	1
Grapeland	1	0	0	1	0	1
Hawkins	16	16	4,712	0	0	17
Long Lake	3	2	150	0	1	1
E. Long Lake	2	2	195	0	0	1
Pleasant Grove	3	1	313	0	2	0
Talco	2	2	669	0	0	1
S. Groesbeck	1	0	0	1	0	1
Wildcats	9	0	0	0	9	20
Miscellaneous	0	0	0	0	0	13
Subtotal	71	56	7,763	2	13	81
Ttl. Aug.	71	56	7,763	2	13	81
Ttl. July	87	65	7,581	6	16	87
Difference	16	9	178	4	3	6

*Bbl. per hour.

EAST TEXAS BORDER

Caddo	1	1	15	0	0	1
Bethany	1	0	0	1	0	1
Wildcats	1	0	0	0	1	4
Miscellaneous	0	0	0	0	0	2
Ttl. Aug.	3	1	15	1	1	8
Ttl. July	5	1	10	0	4	10
Difference	2	0	5	1	3	2

TEXAS GULF COAST

Abell-Borden	1	0	0	0	1	0
Anahuac	2	2	1,039	0	0	1
Alta Loma	1	0	0	0	1	0
Blue Ridge	2	0	0	0	2	1
Caplen	1	1	95	0	0	2
Clear Lake	1	1	443	0	0	0
Clam Lake	1	1	124	0	0	1
Clodine	2	1	604	0	1	2
Danbury	1	1	404	0	0	1
Dickinson	1	1	387	0	0	1
Dyersdale	6	5	1,167	1	0	3
Eureka	1	0	0	0	1	1
Fairbanks	1	1	118	0	0	0
Fannett	1	1	184	0	0	3
Fig Ridge	1	1	768	0	0	1
Garwood	2	1	234	0	1	3
Ganado	3	3	436	0	0	2
Hardin	2	1	113	0	1	1
High Island	1	1	160	0	0	0
Hillje	1	1	76	0	0	0
Joe's Lake	1	0	0	1	0	1
Labelle	1	0	0	0	1	0
League City	1	1	192	0	0	1
Lolita	9	9	1,096	0	0	10
Lovells Lake	1	1	60	0	0	3
Lucky	1	0	0	0	1	0
Markham	3	2	622	0	1	1
Maurbro	3	3	878	0	0	2
Oyster Bayou	1	1	648	0	0	1
N. Markham	1	1	204	0	0	3
Old Ocean	3	3	557	0	0	8
Pickett Ridge	1	1	10	0	0	0
Pierce Junction	1	1	118	0	0	1
Port Neches	2	2	434	0	0	2
Red Fish Reef	2	1	163	0	1	1
Saratoga	1	0	0	0	1	1
Thompson	1	1	153	0	0	1
Tomball	3	1	463	1	1	2
Turtle Bay	1	1	40	0	0	0
West Ganado	2	2	310	0	0	2
W. Columbia	2	2	231	0	0	3
West Ranch	14	14	3,581	0	0	12
Withers	2	2	174	0	0	3
Miscellaneous	12	0	0	0	12	73
Ttl. Aug.	101	72	16,286	3	26	154
Ttl. July	80	66	12,853	0	14	151
Difference	21	6	3,433	3	12	3

SOUTH CENTRAL TEXAS

Alta Vista	1	0	0	0	1	0
Chicon Lake	1	1	2	0	0	0
Dale	1	1	8	0	0	0
Day	1	0	0	0	1	0
Elm Creek	1	0	0	0	1	0
Gas Ridge	2	2	5	0	0	5
Lentz	1	0	0	0	1	0
Minerva-Rockdale	1	1	2	0	0	1
Red Rock	1	1	8	0	0	0
Tenney Creek	1	1	140	0	0	1
Somerset	1	1	10	0	0	1
Von Ormy	1	1	1	0	0	0
Miscellaneous	15	0	0	0	15	23
Ttl. Aug.	28	9	176	0	19	31
Ttl. July	22	1	655	9	12	51
Difference	6	8	479	9	7	20

LOWER GULF COAST

Agua Dulce	10	7	928	0	3	19
Alfred	2	2	380	0	0	0
Ben Bolt	3	2	81	0	1	1
Bloomington	1	1	43	0	0	4
Clara Driscoll	2	2	178	0	0	1
Cloma Creek	1	1	96	0	0	1
Chapman Ranch	1	0	0	1	0	1
Coleto Creek	2	2	124	0	0	2
Cologne	2	2	195	0	0	2
E. Flour Bluff	3	3	446	0	0	2
East Alice	1	1	32	0	0	0
E. Premont	5	5	782	0	0	3
Fagan	6	5	636	0	1	2
Keeran	1	1	131	0	0	0
La Gloria	1	0	0	0	1	3
Luby	1	1	137	0	0	0
Midway	2	2	235	0	0	5
Minnie Bock	5	4	443	1	0	5
Odem	2	2	334	0	0	2
Plymouth	1	1	135	0	0	1
Richard King	4	4	244	0	0	2
Refugio	1	0	0	0	1	4
Shield	3	3	350	0	0	2
Stratton	11	8	2,230	3	0	7
Tomoconnor	3	3	1,343	0	0	1
Victoria	1	1	60	0	0	4
Wade City	2	1	100	0	1	1
Miscellaneous	10	0	0	0	10	15
Ttl. Aug.	87	64	9,663	5	18	90
Ttl. July	64	47	5,175	0	17	95
Difference	23	17	4,488	5	1	5

SOUTH TEXAS

Alta Mesa	2	2	164	0	0	2
Boyle	1	0	0	0	1	1
Casa Blanca	5	1	23	2	2	2
Chaparosa	1	0	0	0	1	0
Charamousca	1	0	0	0	1	1
Chiltipin	1	1	12	0	0	1
Colorado	8	6	1,034	0	2	3
Driscoll	2	2	199	0	0	1
Escobas	1	0	0	0	1	0
Ezzell	2	0	0	0	2	0
Government Wells	1	1	56	0	0	0
Kelsey	1	1	335	0	0	4
Killam	3	3	241	0	0	2
Labbe	1	1	168	0	0	0
Lopeno	1	0	0	1	0	0
Laurel	1	0	0	0	1	0
Lundell	3	3	124	0	0	2
Nichols	1	1	126	0	0	2
N. Rincon	1	1	176	0	0	1
Oakville	4	2	60	0	2	1
Rio Grande City	2	0	0	0	2	0
Rancho Solo	1	1	12	0	0	0
Rincon	16	15	2,346	1	0	8
Rios	1	1	15	0	0	0
Sam Fordyce	2	2	107	0	0	1
Southland	1	1	10	0	0	0
Sun	3	3	545	0	0	3
S. Campana	1	1	107	0	0	2
Weser	1	0	0	0	1	0
White Creek	1	0	0	0	1	1
Miscellaneous	13	0	0	0	13	35
Ttl. Aug.	83	49	5,860	4	30	73
Ttl. July	62	36	4,346	4	22	84
Difference	21	13	1,514	0	8	11

ARKANSAS

Alma	1	0	0	1	0	1
Dorcheat	2	1	160	1	0	5
Fouke	1	0	0	0	1	1
McKamie†	3	0	0	3	0	4
Smackover	3	1	225	0	2	2
Stephens	1	0	0	0	1	1
Troy	2	2	59	0	0	3
Wildcats	5	0	0	0	5	5
Miscellaneous	0	0	0	0	0	4
Ttl. Aug.	18	4	444	5	9	26
Ttl. July	17	8	1,701	1	8	24
Difference	1	4	1,257	4	1	2

Gas production (million cu. ft.): Dorcheat, 156.0; Alma, 25.0. †Condensate production: McKamie, 1,224 bbl.

MISSISSIPPI

Jackson	1	0	0	1	0	1
Tinsley	23	21	11,112	0	2	24
Wildcats	2	0	0	0	2	9
Miscellaneous	0	0	0	0	0	0
Ttl. Aug.	26	21	11,112	1	4	34
Ttl. July	22	18	12,148	1	3	30
Difference	4	3	1,036	0	1	4

Gas production (million cu. ft.): Jackson, 20.

NORTH LOUISIANA

Ajax	2	0	0	1	1	2
Bellevue	6	4	155	0	2	2
Bull Bayou	1	0	0	0	1	0
Caddo	20	18	885	0	2	23
Converse	1	0	0	0	1	0
Homer	1	1	22	0	0	1
Joaquin-Logansport	2	0	0	2	0	2
Lisbon	1	0	0	1	0	1
Little Creek	2	2	323	0	0	2
Monroe	2	0	0	2	0	3
Nebo	7	7	1,222	0	0	8
Olla	11	10	1,552	1	0	9
Sligo	3	1	70	1	1	3
South Olla	2	1	125	0	1	2
Sugar Creek	1	0	0	0	1	2
Trout Creek	1	1	128	0	0	0
Zwolle	1	0	0	0	1	0
Wildcats	11	0	0	1	10	18
Miscellaneous	0	0	0	0	0	9
Ttl. Aug.	75	45	4,482	9	21	87
Ttl. July	60	38	3,411	10	12	83
Difference	15	7	1,071	1	9	4

Gas production (million cu. ft.): Joaquin-Logansport, 168.0; Monroe, 3.6; Sligo, 266.0; Olla, 1.360; Lisbon, 5.0; Wildcat, 15.0.

LOUISIANA GULF COAST

Anse La Butte	2	2	193	0	0	6
Barataria	3	3	876	0	0	3
Bastian Bay	1	1	324	0	0	1
Bayou Blue	2	2	328	0	0	2
Belle Isle	1	0	0	0	1	1
Caillou Island	1	0	0	0	1	1
Chalkley	1	1	369	0	0	2
Choctaw	1	1	65	0	0	1
Charenton	2	1	66	1	0	2
Darrow	1	0	0	0	1	1
E. Hackberry	2	2	912	0	0	2
Delta Farms	1	1	470	0	0	0
Dog Lake	1	1	184	0	0	1
Fausse Point	1	1	270	0	0	1
Garden Island	2	2	442	0	0	2
Gibson	2	1	207	0	1	1
Golden Meadow	6	4	771	0	2	4
Gueydan	2	2	795	0	0	4
Iowa	1	0	0	0	1	1
Jeanerette	1	1	266	0	0	1
Jennings	3	3	228	0	0	3
Lafitte	1	1	300	0	0	1
Lakeside	1	1	43	0	0	1
Leesville	1	0	0	0	1	2
New Iberia	3	3	621	0	0	2
Paradis	1	1	493	0	0	3
Pine Prairie	0	0	0	0	0	4
Plumb Bob	1	1	161	0	0	1
Port Allen	1	0	0	0	1	1
Port Barre	1	1	174	0	0	2
Quarantine Bay	1	1	276	0	0	1
Raceland	1	1	135	0	0	0
St. Gabriel	1	1	292	0	0	3
Sweet Lake	1	1	120	0	0	1
Ville Platte	6	5	1,127	0	1	11
Vinton	2	1	102	0	1	1
West Bay	1	1	462	0	0	2
Westwego	1	1	101	0	0	2
Welsh	1	1	4	0	0	1
West Lake Verret	1	1	81	0	0	3
Woodlawn	3	3	441	0	0	3
Miscellaneous	4	0	0	0	4	59
Ttl. Aug.	70	54	11,699	1	15	144
Ttl. July	76	56	13,230	1	19	157
Difference	6	2	1,531	0	4	13

MONTANA

Bowdoin	5	0	0	5	0	21
Cut Bank	9	8	1,327	0	1	20
Kevin-Sunburst	15	11	2,534	2	2	17
Signal Butte	1	0	0	0	1	0
Miscellaneous	0	0	0	0	0	32
Ttl. Aug.	30	19	3,861	7	4	90
Ttl. July	28	15	2,644	5	8	83
Difference	2	4	1,217	2	4	7

NORTHWEST NEW MEXICO

Field—	Comp.	Oil	Prod.	Gas	Dry	Dig.
Fulcher Basin	1	0	0	1	0	1
Hospah	3	3	158	0	0	0
Miscellaneous	0	0	0	0	0	11
Ttl Aug.	4	3	158	1	0	13
Ttl. July	1	0	0	1	0	9
Difference	3	3	158	0	0	4

WYOMING

Byron	1	1	430	0	0	0
Canyon Creek	1	0	0	1	0	0
Cole Creek	1	0	0	0	1	1
Dewey	1	0	0	0	1	0
E. Hiawatha	1	0	0	0	1	0
La Barge	3	2	165	0	1	5
Lance Creek	2	2	1,018	0	0	5
Lost Soldier	1	1	2,400	0	0	2
Mahoney	1	1	185	0	0	1
Maverick Springs	2	2	650	0	0	2
Muskrat	1	0	0	1	0	0
Oregon Basin	2	2	630	0	0	2
Osage	6	3	101	0	3	6
Rock River	1	1	50	0	0	1
Salt Creek	1	1	108	0	0	1
Six Mile	1	0	0	0	1	0
Wertz	2	2	1,720	0	0	5
Miscellaneous	0	0	0	0	0	48
Ttl. Aug.	28	18	7,457	3	7	79
Ttl. July	19	17	5,320	0	2	83
Difference	9	1	2,137	3	5	4

COLORADO

Powder Wash	1	0	0	1	0	0
Rangely	1	1	75	0	0	10
Wilson Creek	1	1	200	0	0	1
Miscellaneous	0	0	0	0	0	27
Ttl. Aug.	3	2	275	1	0	38
Ttl. July	2	0	0	0	2	38
Difference	1	2	275	1	2	0

CALIFORNIA

	Comp.	Oil	Prod.	Gas	Dry	Dlg.
Belridge, N.	0	0	0	0	0	1
Canal	0	0	0	0	0	1
Coalinga	7	7	12,494	0	0	7
Coles Levee	2	2	1,640	0	0	4
Coyote, E.	0	0	0	0	0	2
Coyote, W.	1	1	450	0	0	0
Dominguez	6	6	2,123	0	0	5
Edison	0	0	0	0	0	1
Elk Hills	1	1	395	0	0	3
Elwood	0	0	0	0	0	1
Fruitvale	1	1	100	0	0	1
Greeley	3	3	4,273	0	0	6
Huntington Beach	5	2	450	0	3	3
Inglewood	0	0	0	0	0	6
Kern River	4	4	365	0	0	4
Kettleman N. Dome	1	1	216	0	0	10
Long Beach	4	3	255	0	1	3
McDonald Island	0	0	0	0	0	1
McKittrick	0	0	0	0	0	1
Midway-Sunset	0	0	0	0	0	5
Mount Poso	4	3	1,200	0	1	2
Paloma	0	0	0	0	0	2
Raisin City	0	0	0	0	0	1
Richfield	1	1	28	0	0	1
Rincon	1	1	133	0	0	1
Rio Bravo	1	1	1,518	0	0	1
Rio Vista gas field	3	0	0	3	0	3
Rosecrans	1	0	0	0	1	1
Round M'tn.	1	0	0	0	1	
San Miguelito	1	1	130	0	0	1
Santa Maria	2	1	310	0	1	3
Santa Maria Valley	5	5	5,980	0	0	5
Seal Beach	1	1	760	0	0	0
Strand	2	1	1,803	0	1	1
Ten Section	3	3	5,402	0	0	1
Torrance	1	1	95	0	0	3
Tupman	2	2	1,801	0	0	3
Union Ave.	0	0	0	0	0	1
Ventura Ave.	4	4	4,190	0	0	6
Ventura-Newhall	5	4	6,605	0	1	17
Whittier	0	0	0	0	0	1
Wilmington	16	16	9,536	0	0	8
Wildcats	12	0	0	0	12	35
Ttl. Aug.	101	76	62,252	3	22	163
Ttl. July	122	99	62,969	3	20	177
Difference	21	23	717	0	2	14

SOUTHEAST NEW MEXICO

Lea	12	8	2,195	0	4	32
Eddy	7	2	333	1	4	34
Chaves	1	0	0	0	1	5
Ttl. Aug.	20	10	2,528	1	9	71
Ttl. July	41	31	5,503	1	9	88
Difference	21	21	2.975	0	0	17

CANADIAN FIELDS

Production Remains High; Gas Reserves Increased

By VICTOR LAURISTON

CHATHAM, Ont., Sept. 22.—Crude production for all Alberta fields in July totaled 832,520 bbl., or 26,855 bbl. daily. The daily output increased 750 bbl. over June but was 63 bbl. short of July 1940. The total was supplemented by 21,395 bbl. of natural gasoline, an increase of 51 bbl. daily over June and 55 bbl. daily over July 1940.

Turner Valley production in July included: shallow crude, 492 bbl.; limestone naphtha, 1,154 bbl.; limestone crude, 823,125 bbl.; natural gasoline, 21,395 bbl.

Natural-gas production for July totaled 4,494,200,000 cu. ft., or 144,965,000 cu. ft. daily, a decrease of 5,641,000 cu. ft. daily from June but an increase of 5,928,000 cu. ft. daily over July 1940.

Crude-petroleum stocks in Alberta as of August 1, 1941, were 439,734 bbl., an increase of 70,673 bbl. over July 1 and 114,571 bbl. over August 1, 1940.

Among Turner Valley crude wells, the largest producer in July was Home Oil 2, with 24,889 bbl. Other large completed producers were: Home Oil 7, with 24,483 bbl.; Home Oil 1, 18,733 bbl.; Lion-Sunray 1, 18,569 bbl.; Foothills Oil & Gas 5, 16,540 bbl., and Foothills 7, 15,538 bbl. New completions in whole or partial production included: Royalite Oil 56, 1,630 bbl.; Home Oil 8, 4,325 bbl.

Alberta crude and natural-gasoline production for the week ending September 1 was 27,959 bbl. daily, compared with 27,523 bbl. daily for the previous week and 27,331 bbl. daily for the corresponding week of 1940. There were 184 producing wells, with 30 wells drilling, 10 testing, 1 shut down, 1 new test spudded, and 3 permits issued.

Turner Valley Quotas

September allowables for Turner Valley crude wells have been set by the Alberta Conservation Board at 780,000 bbl. for the month, or 26,000 bbl. daily.

TURNER VALLEY COMPLETIONS

North Turner Valley: Ace Royalties 1, LSD 5, 4-21-3w5, finished at 8,834 ft., Madison at 8,335 ft., flowed 36 bbl. hourly natural on 8-hr. test.

Royalite-Model 1, LSD 1, 22-20-3w5, T.D. 7,600 ft., Madison at 7,013 ft., temporary allowable 358 bbl.

Home Oil 8, LSD 16, 15-20-3w5, T.D. 8,441 ft., Madison at 7,884 ft., temporary allowable 256 bbl.

West Central section: Calmont-Northwest 4, LSD 2, 18-19-2w5, T.D. 7,268 ft., Madison at 6,833 ft., temporary allowable 224 bbl.

British American-Brown 1, LSD 14, 13-19-3w5, T.D. 8,634 ft., Madison at 8,178 ft., temporary allowable 215 bbl. daily.

Royalite Oil 57, LSD 2, 7-19-2w5, T.D. 7,765 ft., Madison at 7,315 ft., temporary allowable 174 bbl. daily.

Alberta Gas Tests

In the Kinsella field, Northwest Utilities, Ltd., has completed four of a program of five wells to be drilled this season. Northwest Utilities 4 finished at 2,180 ft., rated 11,035,000 cu. ft. daily. Northwest 5 at 2,172 ft., was good for 15,918,000 cu. ft. Northwest 6 at 2,168 ft. was completed for 20,196,000 cu. ft., and Northwest 7 at 2,208 ft. flowed 10,577,000 cu. ft. The wells are shut in as reserves for the present Edmonton system and projected new transmission line to Red Deer.

Michigan Fields

(Continued from Page 102)

Two Adams Wells Showing For Good Producers

Rayburn & Major 3 Kerr, NE NE NE 22-19n-3e, a southwest offset to a dry hole in the Adams field came in early last week flowing 110 bbl. an hour from the Dundee logged from 2,859-65 ft. Early tests indicated that it would be as good a producer as some of the early wells and its completion will start two additional wells. South of the main pool, Major 1 Moor, NW SW SE 22-19n-3e, flowed 70 bbl. an hour for 7 hours from the Dundee at 2,870 ft., and will open up several locations in this sector

A sixth natural-gas producer was being completed in Isabella County's Deerfield pool. Union Drilling & Producing Co. announced its Frost Township wildcat in Clare County was a failure in drilling to 4,095 ft. For the state there were a total of 16 completions, 8 of them dry holes.

MICHIGAN COMPLETIONS

Allegan County

Dorr Township: Muskegon Oil Corp. 2 Seewald, NW SE SW 29-4n-12w, dry, after show of oil, T.D. 1,708 ft.

Overisel Township: Prather & Gooch 1 Schra, SW NW SW 35-4n-14w, dry, T.D. 1,548 ft.

Clare County

Frost Township: Union Drilling & Producing Co. 1 Newland, SE SE NW 19-20n-4w, wildcat, dry, T.D. 4,095 ft.

Kent County

Caledonia Township: Homer Fulton 1 Dawson, NE SW NE 21-5n-10w, wildcat, dry, T.D. 2,202 ft.

Missaukee County

Riverside Township: Taggart Bros. Co. 27 Bodery-Jager-Schurman, C NW 21-21n-7w, dry, T.D. 1,460 ft.

Monroe County

Dundee Township: Skinner & Shiffman 2 Bragg, NW SW SW 29-6s-6e, dry, T.D. 2,154 ft.

Osceola County

Lincoln Township: Weber Oil Co. 2 Wilson, NW NE SE 30-18n-10w, 3,168 bbl., natural, T.D. 3,571 ft.

C. W. Teater 2 Baderschneider, C S½ SE NW 30-18n-10w, est. 3,600 bbl., natural, T.D. 3,591 ft.

Pure Oil Co. 3 Jewett, C N½ SW NE 31-18n-10w, 1,607 bbl., acid, T.D. 3,591 ft.

Van Buren County

Bloomingdale Township: N. R. Dodd 1 Keene, SE SW NE 11-1s-14w, pumping 55 bbl., acid, T.D. 1,297 ft.

Fortney & Broughton 1 Truax, NE NW NE 11-1s-14w, pumping 90 bbl., acid, T.D. 1,354 ft.

R. D. Malcolm, Tr., 1 Allen, NW SW NW 12-1s-14w, pumping 35 bbl., acid, T.D. 1,302 ft.

Fisher-McCall Oil & Gas Co. 7 Maier, SW SW SE 14-1s-14w, pumping 10 bbl., acid, T.D. 1,281 ft.

N. R. Dodd 1 Ample, SW NE SE 2-1s-14w, pumping 55 bbl., acid, T.D. 1,300 ft.

Columbia Township: Frank E. Stocking 1 Lewis, SE SW NE 14-1s-15w, wildcat, dry, T.D. 1,183 ft.

Pine Grove Township: Earl G. Hartman 1 Fulton, SW NW SE 28-1s-13w, wildcat, dry, T.D. 1,360 ft.

LEGAL

Department of the Interior, United States Land Office, Cheyenne, Wyoming. Notice is hereby given that the oil and gas deposits in the W½ NE¼ and NE¼ NW¼ Sec. 14, T. 32 N., R. 82 W., 6th P.M., containing 120 acres, in the Iron Creek oil and gas field, Wyoming, are offered as one unit to the responsible qualified bidder of the highest bonus per acre for leasing, pursuant to the provisions of section 17 of the leasing act of February 25, 1920 (41 Stat. 437), as amended by the act of August 21, 1935 (49 Stat. 674), at the royalty rate scale in the lease form shown in circular 1386. The sale will be held in this office at 10:00 o'clock A.M., on October 28, 1941. The successful bidder must deposit on the date of sale with the Register, a certified check on a solvent bank, or cash, for one-fifth of the amount bid by him, and file a showing of qualifications to receive a lease, required by section 7 of circular 1386. The remaining four-fifths of the amount of the bid, together with the annual rental at the rate of $1 per acre, must be paid, and a $5,000 corporate surety bond furnished prior to the issuance of the lease. A stipulation for the protection of the Kendrick Reclamation Project, a copy of which may be obtained from this office, will be made a part of the lease. Bidders are warned against violations of the provisions of section 59 of the United States Criminal Code, approved March 4, 1909, prohibiting unlawful combination or intimidation of bidders. The right is reserved to reject any and all bids at the discretion of the Secretary of the Interior. Register.

LEGAL

Department of the Interior, United States Land Office, Las Cruces, New Mexico. Notice is hereby given that lots 8 and 9, Sec. 5, T. 21 S., R. 37 E., N.M.M., New Mexico, containing 80 acres in the Eunice Field, New Mexico, are offered to the responsible qualified bidder of the highest bonus per acre for lease under section 17 of the act of August 21, 1935 (49 Stat. 674), at the royalty rate scale in the lease form shown in Circular 1386 at a sale to be held in the United States Land Office, Las Cruces, New Mexico at 10:00 o'clock October 1, 1941. The successful bidder must deposit on the date of the sale a certified check on a solvent bank, or cash, for 1/5 of the mount bid, and file the showing of qualifications to receive a lease, required by section 7 of Circular 1386. The remainder of the bonus bid and the annual rental of $1.00 per acre must be paid and a $5,000 corporate surety bond must be furnished prior to the issuance of the lease. The bidders are warned against violation of the provisions of Sec. 59 of the United States Criminal Code, approved March 4, 1909, prohibiting unlawful combination or intimidation of bidders. The right is reserved to reject any and all bids at the discretion of the Secretary of the Interior. Paul A. Roach, Register.

STOP WEAR on SWIVEL and ELEVATOR BAILS

It's dangerous to permit bails to wear down by contact of elevator with swivel. This can be easily avoided by use of the Patterson-Ballagh Swivel Bail Bumper. The elevator and its links, or bail, rides on rubber. This protective unit can be furnished by swivel manufacturers or direct from us. Use it on every swivel. See Composite Catalog.

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SWIVEL BAIL BUMPER

South End of Tinsley Field Defined by Small Wells

By R. MARNE SANFORD

JACKSON, Miss., Sept. 22.—The south end of the Tinsley field in Yazoo County was partially defined during the week when initial production attempts failed at a wildcat outpost on that end of the field. Phillips Petroleum 1 Lilmar, SE NW NE NW 6-9n-2w, swabbed 26 hours from the Woodruff zone topped at 5,003 ft. and recovered only 10 per cent oil and 90 per cent water. The test had been through casing perforated at 5,002-24 ft. The 7-in. is set at 5,080 ft. and with a total depth of 5,100 ft., it is likely that the perforations will be squeezed off and further production attempts made.

Phillips 2 Twiner, SE NW 6-9n-2w, about ¼ mile east of the same company's 1 Lilmar, perforated casing in the Woodruff zone from 5,016-24 ft. and pumped off making 104 bbl. of oil in 17 hours. These holes were squeezed and it was again perforated from 5,018-26 ft. with 72 shots, from which level it swabbed dry. After again squeezing casing was reperforated from 5,026-34 ft. with 54 shots and it pumped 33 bbl. of oil and 437 bbl. of water in 24 hours. With production still doubtful in this well, the outcome of it and the previously mentioned south-end field test, will undoubtedly have a great deal to do with further drilling in that sector.

SUMMARY OF COMPLETIONS

	No.	Bbl.	Footage
Oil wells: Tinsley	6	3,445	29,536
Dry holes: Tinsley	1	.....	6,034
Wildcats	1	.....	6,011
Total	8	.....	41,581

Sohio Takes Over Southern Pipe Line Co.

Announced the past week as effective September 15, the Sohio Corp. has taken over the personnel of the Southern Pipe Line Co. in Jackson, Miss. Also the deal involves some of Southern Pipe Line Co.'s connections in the Tinsley field. The particulars of the acquisition by Sohio were not announced.

Cary Field Discovery

Well Still Ungaged

British American 1-A Houston, discovery well for the Cary field in Sharkey County, and Mississippi's third commercial oil field, is still ungaged. It is pumping into a large 10,000-bbl. storage tank erected on the lease, but no daily potential gage has yet been made nor have the daily outputs of the well during the past week of pumping been released. No. 1-A Houston is located C N½ NE SW 23-11n-7w, and is bottomed at a total depth of 4,355 ft. Production is through casing perforations opposite the chalk from 3,270-80 ft.

New Wildcat Location

In Warren County the Magnolia Petroleum Co. has staked a new exploratory test. It is to be 1 J. H. Hall, located in NE NW NE 39-17n-4e (irregular). It is about 10 miles north of Vicksburg.

MISSISSIPPI COMPLETIONS

Wildcat, Madison County: Sinclair-Wyoming 1 Harris, C E½ 26-10n-5e, top Wilcox 1,030 ft., Midway 2,930 ft., Selma 3,650 ft., Eutaw 4,701 ft., Tuscaloosa 5,205 ft., dry at 6,011 ft.

Tinsley, Yazoo County: W. F. Bridwell 1 Ben Hanley, NE NW SE SE 35-10n-3w, Woodruff 4,755-71 ft., T.D. 4,773 ft., pumped 627 bbl.

W. L. Ethredge 1 George Stutts, SE NW 31-10n-2w, Woodruff 4,913-84 ft., perf. casing 4,912-82 ft., pumped 600 bbl., T.D. 5,028 ft.

C. B. Gholson 5 Sorrells, NE NW 32-10n-2w, Woodruff 4,977-5,015 ft., perf. casing 4,877-97 ft., T.D. 5,015 ft., pumped 528 bbl.

Hassie Hunt 6 Sorrells, SW NE 31-10n-2w, Woodruff 5,003-19 ft., T.D. 5,019 ft., pumped 620 bbl.

Hunter Jones 1 Link, NE SE 36-9n-3w, Wilcox 2,501 ft., Midway 5,057 ft., Selma 5,943 ft., Woodruff 5,954 ft., dry at 6,034 ft.

Magnolia 6 Mitch Payne, SW NE S½ NE SE 35-10n-3w, Woodruff 4,720-52 ft., T.D. 4,756 ft., pumped 600 bbl.

W. G. Ray Drilling Co. 2 Walker, SW N¼ 2-9n-3w, Woodruff 4,929-41 ft., T.D. 4,945 ft., pumped 470 bbl.

MISSISSIPPI WILDCAT REPORT

Copiah County: Sun Oil 1 J. G. Ainsworth, N½ NW SE 17-9n-7e, laying water line to drill site.

Grenada County: H. T. Salter 1 Carpenter, NE SE 6-21n-7e, rigging up rotary (correction from last report).

Kemper County: Darrel C. Williams 1 McKelvain, SE NE 2-9n-17e, top Selma 724 ft., Eutaw 1,400 ft., Tuscaloosa 1,960 ft., show gas 2,175 ft., drilling 2,360 ft.

Lawrence County: Tide Water 1 Denman Lbr. Co., N½ SW 5-5n-11e, T.D. 5,200 ft., making electrical survey.

Sharkey County: British American Oil 1-A Houston, NW NE SW 23-11-7w, pumped 156 bbl. oil and 350 bbl. water in 4 days, pumping 8 hr. per day, now pumping into 10,000-bbl. tank ungaged.

Stone County: H. I. Morgan 1 University of Mississippi, C SE 35-3s-10w, reaming at 7,279 ft.

Yazoo County: Kirby Pet. and Woodley Pet. 1 State, SE SE NE 16-10n-3w, rigging up rotary.

Fred Endom 1 State, NE NE NE 16-9-3w, T.D. 5,633 ft., no Woodruff present, S.D.O.

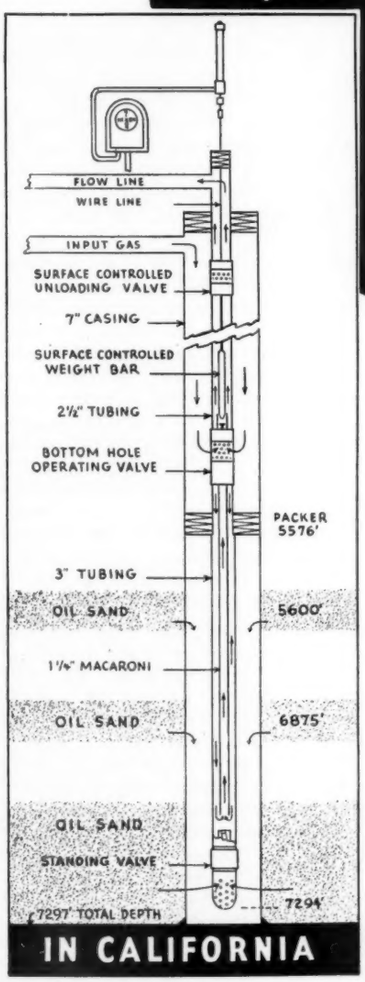
ALABAMA WILDCAT REPORT

Clarke County: Union Prod. Co. 1 M. M. Waite, C NW 27-8n-1w, drilling 11,818 ft., uncertain top of Pottsville 11,700 ft.

Franklin County: E. O. Heath, Jr., 1 W. O. Hester, SW SW 4-6s-12w, top Bangor 14 ft., Hartselle 165 ft., Jasper 322 ft., Bethel 542 ft., Fort Wayne 741 ft., Chattanooga 952 ft., Niagara 955 ft., S.D.O. 1,160 ft.

Lauderdale County: Buford Fillingame 1 Mecke, SE cor. 20-1s-10w, rigging up spudder.

WE RELIEVED THE PRESSURE ..and got production from all 3 formations



IN CALIFORNIA

. . . a Typical Example of NIXON GAS-LIFT ADAPTABILITY

This California operator had a real production problem. Producing zones were flowing through perforated casing at 5600 feet; 6875 feet and bottom 7297 feet. But with ordinary, open gas-lift, when production pressure was applied to casing—it offset formation pressure and the top formation ceased flowing.

Could the Nixon Gas-Lift solve this problem? It certainly could—and did—with a closed intermittent sub-packer installation.

A Nixon bottom hole operating valve was set at 5566 feet, with 3-inch tubing extending to bottom where a standing valve was set at 7290 feet. A Hook Wall Packer, set at 5576 feet, between operating valve and top formation, seals off all three producing formations from operating gas pressure.

Inside the 3-inch tubing, from operating valve to a point just above standing valve there is a 1¼-inch macaroni string. Fluid-lifting pressure is intermitted through the bottom hole operating valve, into annulus between macaroni string and tubing, to force fluid up through the macaroni string.

This installation is actually producing from about 7 feet off bottom, while packer and operating valve are 1721 feet above. Since this installation production has increased from 55 to 375 barrels daily.

Nixon gas-lift engineers are helping scores of operators improve the efficiency and lower the cost of producing their wells. Discuss your production problems with them.

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Industry Must Gear Operations To Still Greater War Needs

(Continued from Page 25)

at Dunkirk. Mr. Wooton also spoke of the great increase in United States production, citing the Federal Reserve Board index which in August rose to 161 against 121 in July 1940, and 105 in July 1939. He predicted that it will not rise above 161 since nondefense production is due to decline.

Ellsworth C. Alvord, Washington, federal-tax authority, declared that if we do not do something now, we "will have a tax system from which we will never recover" as he predicted a federal debt of $90,000,000,000. He called for a tax program that would fit the period of transition, in which we are at present, the period of maximum production and the post-war period. It is possible to so shape the program that government ownership and dictatorship will end with the war, he said, but the probability depends upon the people. He condemned the administration's tax program as a method for controlling inflation since it hits existing taxpayers most heavily and does nothing so far as the increased buying power is concerned.

Both general sessions of the convention were conducted by the association president, N. H. Weber, vice president of the Pure Oil Co. Mr. Weber, the other officers of the association and all members of the board of trustees with the exception of Paul Ryan, of the National Refining Co., who retired, were reelected. Among the resolutions adopted by the convention was one pledging support to the Office of Petroleum Coordinator and another urging that the fortieth anniversary of the association, oldest trade group in the oil industry, be suitably observed in 1942.

Four Acute Problems Face Refiners, Gary Declares

ATLANTIC CITY, N. J., Sept. 23.—Four principal problems facing the division of refining, Office of Petroleum Coordinator, according to its director, Wright W. Gary, are priorities, aviation gasoline, lack of antiknock agents, and the distribution of necessary products. Mr. Gary listed these problems in his talk before the Department of Manufacture of the National Petroleum Association.

Inclusion of petroleum production, refining, and transportation among the 20 essential industries granted preference rating A-10 for maintenance and repair materials should be helpful in obtaining most of the industry's needs in this respect, Mr. Gary said, though application for higher preference rating may be needed in some instances. He urged cooperation in the current survey of material needs which is expected to provide definite knowledge of maintenance requirements of the industry and constitute the basis for a plan for broad priority protection for the future. It is necessary to provide extensive detail in applications for new construction and also to point out the justification of the project to national defense, Mr. Gary said. He added that new construction should be limited to absolute necessities and undertaken only when modification or revision of existing equipment is impossible.

Since substantially all the 100-octane gasoline of the democracies must be supplied by the United States, there is an immediate need for a large increase in our productive capacity. Refining facilities are now being surveyed in all districts to determine the best means for meeting this objective, plans are being considered to provide financial protection for refiners undertaking 100-octane production and arrangements have been made with the OPM for high priority ratings for such plants.

The increased volume of aviation gasoline and the serious situation existing in the availability of materials for the manufacture of tetraethyl lead will have some effect on specifications of motor fuel allocated for civilian use. Since uniform rationing would result in undue hardship in some cases, the refining committees have been requested to appoint subcommittees to study this exceedingly complex specification problem.

The fourth problem Mr. Gary discussed is the refining capacity in its relation to distribution and availability of necessary products. The present large domestic demand to which must be added growing export requirements is beginning to tax that capacity. This trend, if continued, will require some expansion which must be guided toward the use of a minimum amount of material and also must consider direct and indirect defense needs, i.e., increased demand for heavy fuel oil for industry and the Navy, for high-octane-base stocks and for high-grade lubricating oils.

Steps Great Britain took to meet its petroleum problem were reviewed for the department by J. R. Piercy, of the British petroleum board. Wholly dependent on imports, Britain's position was critical and to meet it all private imports were forbidden and taken over by the government, the petroleum department was resurrected and all importers, blenders, distributors, etc., were combined into the petroleum board pooling all facilities, including tankers. Increasingly severe rationing was adopted, products were simplified such as limiting gasoline to one grade, and refining, except for the production of asphalt for airports, was eliminated.

Tankers Paramount Problem

The paramount problem, Mr. Piercy said, was that of tankers and as much of the world fleet as was under the control of Britain was reorganized. Short hauls were adopted and supplies everywhere were limited to a minimum. Among the long hauls eliminated was that from Abadan and the 3,000,000 tons formerly obtained there has been replaced by supplies from the Western Hemisphere where British oil needs are now concentrated. As much as possible is obtained from Trinidad and Curacao where full advantage of sterling may be secured and the rest is obtained under the Lend-Lease Act. Near Eastern oil now supplies the Near East and Indian exclusively.

Among the duties of the petroleum board was the simplification of specifications. These were broadened enough to cover several products and therefore were unsuitable for use in the United States. Those applying to light oils were fairly satisfactory but buying has been limited to the availability of tankers and whether they are clean or dirty. Lubricating-oil specifications, however, are more complicated and it has been necessary to rewrite the simplified specifications more in line with those in use in the United States and future bids are expected to be sought on the basis of the rewritten specifications.

The supply problem of light oils and lubricating oils was comparable to the specification problem. The former have been comparatively easy to obtain but the latter, especially Pennsylvania neutral, have been difficult to get. The British navy specifies Pennsylvania oil and Britain needs from 70,000 to 80,000 bbl. of neutral a year. Mr. Piercy suggested the possibility of each Pennsylvania refiner allotting a sufficient portion of his production to meet the British requirements.

Transportation Division Session

The Thursday morning session on traffic and transportation was greatly curtailed because of the absence of H. A. Gilbert, director of transportation of the Office of Petroleum Coordinator, who was to have been the principal speaker. Mr. Gilbert sent a telegram explaining that an emergency matter had developed which prevented him from leaving Washington. Members of District 1 transportation division were also unable to be present, having been called to Washington for a conference.

In the absence of a formal program, the meeting was turned into a round-table discussion of current transportation problems. Of chief interest was the question of how to handle rate matters with the railroads and the Interstate Commerce Commission since the creation of the Office of Petroleum Coordinator and district transportation committees. Some present had the impression that all rate matters must clear through either the OPC or the committees, and that neither the railroads nor the I.C.C. would consider individual applications, but it was the concensus that to the extent that such clearance may be necessary the requirement would apply only to abnormal and defense movements, and not to normal rate and transportation problems unrelated to the emergency. It was agreed, however, that further clarification is desirable.

Discussion brought out the fact that a number of attempts are being made by persons not previously in the transportation business to set themselves up as barge or motor truck oil haulers. The attitude of the oil men present was largely one of amusement and skepticism that such enterprises would be successful.

The tank-car situation was discussed at some length, and the concensus was that while there probably were some 20,000 tank cars of all descriptions idle last May, there are very few tank cars actually idle at present because demands have increased by shippers of vegetable oils, chemicals, and other bulk liquids, as well as for the movement of petroleum. A number of the oil men pointed out that consignees of petroleum, including the railroads themselves and other large users, are not making as efficient use of tank cars as are the oil companies, and that they should be prevailed upon to unload cars more promptly, to construct more unloading and storage facilities, and not to pyramid orders for fuel in such a way that deliveries are made by several companies simultaneously.

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Watching Washington

(Continued from Page 31)

"it is a matter of common sense to do everything possible to minimize its effects." He added, "When you say there's a shortage of surplus, you say there's a shortage."

Mr. Ickes said that his office was proceeding as fast as possible in its efforts to reverse pipe lines now engaged in transporting petroleum and products westward out of the shortage area. The companies operating these lines have been asked to reverse them and "they are going to reverse

pretty PDQ or they're going to be told to reverse," he declared.

Penn-Grade Producers May Get Higher Prices

UPWARD revision or revocation of the schedule of maximum prices for Pennsylvania Grade crude may follow the meeting between representatives of the Office of Price Administration with Pennsylvania Grade crude producers scheduled for Friday, September 26, according to reports in Washington. The schedule, which has been in effect since August 23, has resulted in a storm of protests from producers on the grounds that the maximum prices set in the schedule are insufficient to cover increased production costs.

Basis for the opinion that the price schedule would be revised following the submission of cost data is the action taken late last week with respect to the revocation of the maximum-price schedule for anthracite coal. The schedule was revoked when leading anthracite producers increased prices in violation of the schedule and submitted data supporting the price advance. The producers agreed not to take any further action relative to price advances in excess of the present one without further consultation with Price Administrator Leon Henderson.

Mr. Henderson, in announcing the meeting with producers of Pennsylvania Grade crude, pointed out that at the time the ceiling for this type of petroleum was issued, he had stated that producers would be given every opportunity to demonstrate to his office that "higher prices are justified in the public interest."

"I had hoped that precise cost data pertinent to this question would be submitted in advance of any meeting with members of the industry to permit study and analysis by my staff," Mr Henderson said. "Very little material has been received to date. I should like to see a substantial amount of additional information come in before the date set for the meeting.

"Obviously," he asserted, "any further action on Pennsylvania Grade crude-oil prices must be taken by OPA on the basis of adequate facts and figures submitted for proper analysis."

Urge Pooling of Pacific Coast Transportation Facilities

FORMAL recommendation for the immediate utilization of all possible means of transporting petroleum products in the Pacific Coast area without regard to ownership of facilities or products, was issued Monday by Petroleum Coordinator Harlold L. Ickes.

The recommendation was addressed to the transportation committee for District 5 and a number of oil and ship companies, and called for the establishment of a tanker subcommittee to carry into effect schedules and cargo loading and dispatching arrangements for the most effective use and operation of tankers available for Pacific Coast runs. Sale, exchange or loan of petroleum or products between the companies, and the use of tanker, pipe line, transport, barge, terminal and storage facilities of all of the companies without regard to individual ownership was recommended in order to reduce to an absolute minimum idle time in port and the splitting of cargoes between two or more ports of discharge.

The recommendation was issued following the dispatch of a telegram from Mr. Ickes to A. L. Weil, general-industry committee chairman for the Pacific Coast region, urging the industry not only to eliminate cross hauls, multiple port discharges, and empty-steaming miles for tankers, but to move fast to press into service pipe lines, motor trucks, tank-car capacity, and every other transportation facility available.

In addition to the transportation committee, the recommendation was addressed to General Petroleum Corp. of California, Texas Co., Richfield Oil Corp., Standard Oil Co. of California, Tide Water Associated Oil Co., Union Oil Co. of California, and the Willcone Steamship Co.

Friction Delays Settlement Of Elkins Act Suits

CONSENT-DECREE settlement of Elkins Act charges against all pipe lines of the country has been delayed by friction among the companies. The Department of Justice is ready to file an omnibus suit and accept a decree simultaneously, but two or three companies among the approximately 80 proposed defendants are balking.

One complication is the application of Phillips Petroleum Co. now pending at the Interstate Commerce Commission to withdraw tariffs on its St. Louis-Chicago line which would make it no longer a common carrier and thus get it out from under Elkins Act jurisdiction. The I.C.C. has not yet acted on application but its filing caused the Department of Justice to insert new language in proposed consent decree to prevent such escape. It is possible that the department may enter decree with companies willing and file separate suits against those refusing to sign, particularly if the holdouts include companies included in the three test suits—Phillips Petroleum Co., Great Lakes Pipe Line Co., and Standard Oil Co. (Ind.).

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Prevention of Pipe Corrosion Highly Developed Technique

(Continued from Page 60)

of Standards paper by T. A. Denison and R. B. Darnielle (Research Paper RP 1157). This paper explains the conditions found on a line in Ohio. The following is quoted from that paper:

"The number of leaks, averaging four per 10,000 ft., shown to have occurred in the Wooster loam, which is one of the least corrosive soils along the pipe lines, indicates that some leaks may occur even in soils which have properties not ordinarily associated with corrosion. The soil occupies rolling uplands where surface drainage is good. It is coarse in texture, has an open, porous structure, contains very little soluble material (average resistivity 8,000 ohm-cm.), and its acidity is normal for the well-weathered soils of the humid regions. Yet a fairly large number of leaks developed in this soil before the line was 15 years old. This same general condition applies likewise to a large body of coarse, well-drained soils of high resistivity, which are classified as sands. In these soils an average of five leaks per 10,000 ft. developed.

"A probable explanation for the occurrence of even a small number of leaks in soils in which leaks would not be predicted is that *corrosion did not occur generally throughout that soil type, but was confined to restricted areas of more corrosive soil types*, that were too small in their extents to be properly classified.

"The occurrence of some leaks in soils which would ordinarily be considered noncorrosive raises the question as to whether any soil types occurring under similar climatic conditions are actually noncorrosive. Since some degree of variability is characteristic of soil types in general, it is difficult to escape the conclusion that in the usual acid soils of the eastern United States, exclusive of certain very well drained or mountainous areas, there are very few soils in which some leaks in a pipe line of average diameter and wall thickness will not develop within 30 years."

Another reason that the use of the resistance measurement as the only means of defining corrosive areas will often "throw a curve" is that we do no know exactly where the line is between the corrosive and noncorrosive soils. It is the writer's belief, as well as that of many others, that corrosion can be expected in the areas of least resistance regardless of what this resistance is. We are talking now about the usual soil distribution that would be found on a long line and not some hypothetical case.

If this is the case, and it seems that it is, then where would one draw the lines that would mark the sections to be coated? Is it not reasonable to expect that the areas of bare pipe next adjacent to the coated pipe would be the first to suffer? This has actually been found to be the case.

To carry this to a conclusion then it might be maintained that the entire line would have to be coated. Naturally that is not necessarily the case. Fairly long sections may be found where corrosion would not be expected. However, a policy of coating short sections relatively close together, and laying the remainder unprotected cannot help but lead to trouble later.

Mention was made above of the method of making soil-resistance measurements of the undisturbed soil. When the resistance measurement is used, the readings should be taken under conditions that would prevail after the line is laid, which is considerably different from a measurement of virgin soil.

Cathodic Protection

All of the foregoing has pictured a dismal failure for the engineer if he has made a mistake in his coating procedure. Actually it is not so dismal. If trouble develops where not anticipated he merely applies the electricity. However, it is not good economics to lay bare lines in known bad soils and then protect them with electricity. The cost of protective coating plus a few small units to take care of the coating faults will not cost as much as the electrical protection for a bare line.

Conclusions

From the foregoing we may arrive at the following conclusions:

1. In the planning of a new line do not try to define the corrosive areas too closely.

2. Use every available means that is practical to determine these areas. It is hard to find a substitute for experience in this work.

3. Use the best of protective coatings in areas that are known to be bad on pipe.

4. Do not use extra wall thickness as a means of prolonging pipe life. Steel is the poorest of coating materials as well as the most expensive.

5. The outlook for the future appears very rosy for the operator planning a new line.

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Personal Paragraphs

JOHN O'BRIEN, formerly engineer at the Fellows, Calif., offices of the Texas Co., was transferred last week to one of the Louisiana offices of the company where he will occupy a like position.

Carter Oil Co. has awarded 20-year-service badges to W. C. WILLIS and H. W. HAYNES, pumpers at Seminole, Okla.; HENRY L. LOUY and EARL B. ALLEN, at Rodessa, La.; FOSTER PRECISE, district superintendent at Wilson, Okla., and ELISHA L. BOOTHE, of the Tulsa laboratory.

JOHN T. BRAYBROOK has returned to Petrolia, Ont., from El Centro, Colombia, where he is employed with the Tropical Oil Co.

E. B. CAPE has been appointed district engineer of the Asphalt Institute, for the territory comprising Texas, Oklahoma and Arkansas, with office in Austin, Tex.

A. E. CAMPO, of Montreal, Quebec, general sales manager of McColl-Frontenac Oil Co., is making an inspection trip covering branches in western Canada.

FRANK M. PORTER, at one time manager of the Wirt Franklin properties, has joined LESLIE FAIN, and the two men have organized the Fain-Porter Drilling Co., with offices in Oklahoma City, Okla.

DR. A. J. MacALPIN has been appointed head of the geological department at West Texas State College, Canyon, Tex., succeeding PROF. WILLIAM F. READ, who resigned recently to accept a position in Lawrence College, Appleton, Wis.

C. R. MUSGRAVE, vice president, Phillips Petrolum Co., is forwarding invitations in the name of the Traffic Club of Bartlesville and FRANK PHILLIPS to attend the eighth annual outing of the club at Mr. Phillips' ranch near Bartlesville on October 8.

H. R. STRAIGHT, president, Cities Service Oil Co., Cities Service Gas Co., and head of Empire Pipeline Co., is honored in the current issue of Empire, house organ of the companies, on the occasion of his sixty-seventh birthday, which will occur September 30. Mr. Straight's service with the companies is interestingly reviewed and illustrated.

HERSCHEL COOPER, San Antonio, Tex., geologist, was principal speaker at a Rotary Club luncheon in San Antonio last week. He discussed the history and formation of the earth.

STANFORD L. ROSE, representing Standard Oil Co. of California in the Mid-Continent, will be the speaker at the first meeting of the 1941-42 season of the Tulsa Geological Society, which will meet September 26. He will speak on "Highlights of India," and will amplify his remarks with colored motion pictures. Mr. Rose returned from a 2½-year stay in India in May.

J. S. WALTON, former research engineer for Socony-Vacuum Oil Co., Inc., and technologist for Standard Oil Developing Co., has joined the chemical engineering staff with the rank of professor at the University of Oklahoma, where he will continue research in catalytic and thermal-conversion processes. Mr. Walton has also been a consulting engineer and has made numerous surveys of cracking processes at refineries in the United States, Canada and Netherlands West Indies.

R. F. BAKER, assistant to the manager of the producing department of the Texas Co. in the company's New York headquarters, last week headed a group of research specialists on a visit to the company's Los Angeles offices.

J. W. (JACK) ARNOLD, formerly secretary to J. T. WOOD, JR., manager of production in California for the Texas Co., has enlisted in the U. S. Navy and is now serving as a yeoman at the San Pedro naval headquarters.

Do You Remember?

From The Oil and Gas Journal Files

25 YEARS AGO

The importance of pipe-line transportation as a factor in the development of the oil industry is the subject of a report of the Federal Trade Commission.

In this issue of The Oil and Gas Journal is published an advertisement of a British firm, offering for sale a number of oil tankers.

C. D. Chamberlain of Cleveland, Ohio, at the recent annual meeting of the National Petroleum Association, predicted higher prices for oil in the years to come.

The desire of the Navy Department to conserve the Naval oil reservations is easily understood in view of the tremendous building program of oil-burning vessels for the Government. The new naval-appropriations bill provides for construction of 70 vessels immediately, all of which are oil or gasoline burners.

20 YEARS AGO

But little is heard, of late, regarding oil conservation.

Capt. Maurice D. Murphy, 66 years old, wharfmaster for the city of Houston, Tex., died at his home in Houston September 16. His boyhood and young manhood were spent in the oil regions of Pennsylvania.

While more than 20 men have signified their willingness to take the job, Gov. Henry J. Allen of Kansas is finding it difficult to pick a state oil inspector to succeed Harvey Motter, resigned.

10 YEARS AGO

There no longer exists any reason or even any excuse for delaying increases in prices for crude oil.

At the annual meeting of the Aeronautical Chamber of Commerce, held during the National Air Meet, Cleveland, Ohio, Richard A. Wotowitch of Henry L. Doherty & Co., Cities Service Co., was elected chairman of the executive committee on fuels and lubricants.

J. C. (DOC) HACKETT, of the International Petroleum Co. staff, has returned to Canada on a 3-month furlough from Negritos, Peru.

JOSEPH P. SHAW, oil operator, formerly of Mount Carmel, Ill., is convalescing from an illness in a Tulsa hospital. Mr. Shaw will make his home in Tulsa.

PAUL G. BENEDUM, general manager of the Benedum-Trees Oil Co., Houston, Tex., returned last week for an extended vacation trip to the East.

HARRISON LAWLER has accepted a position on the public relations department of Tide Water Associated Oil Co. and will maintain offices at the company's Los Angeles, Calif., headquarters.

H. H. HETZLER, superintendent of the Humble Pipe Line Co.'s pump station at Hearne, Tex., has been transferred to the company's station at Satsuma, La. Mr. Hetzler was succeeded at Hearne by R. E. LESLIE.

J. A. (BILL) MATHEWS, chief scout for the Arkansas Fuel Oil Co. in the Gulf Coast division at Houston, Tex., has been transferred to New Orleans, La. RICHARD L. RAY, formerly located at Shreveport, La., has been transferred to Houston to succeed Mr. Mathews.

ALVIN RICHARDS, Tulsa, attorney for Pure Oil Co., is chairman of the Mineral Law Section of the American Bar Association, which holds its annual meeting in Indianapolis, Ind., September 29 to October 3. Gov. Leon C. Phillips, of Oklahoma, will address the convention on "Advantages of State Control of the Petroleum Industry."

RUEL S. HARRIS, of Shell Oil Co., Tulsa, first lieutenant in Field Artillery Reserve Corps, has been ordered to report for duty at Fort Sill, Okla.

BISHOP BRADFORD, independent operator of Los Angeles, Calif., was in Bakersfield last week preparing to drill a wildcat near the Mount Poso field.

OLIN G. BELL, geologist for the Humble Oil & Refining Co., Houston, Tex., addressed members of the Derrick Club in Houston last week on "Production Geology."

SAM B. HERNDON, California independent operator, has established headquarters in the Fresno Hotel at Fresno, Calif., in order to direct operations at his wildcat in the nearby Raisin City field.

J. E. GOODWIN, Haughton, La., employe on the Texaco tank farm, suffered an attack of heat prostration last week. His condition is reported as satisfactory by attendants at the North Louisiana Sanitarium.

D. F. PURDUM, consultant engineer in Tulsa and Houston, will be the principal speaker at the first fall meeting of the Petroleum Engineers Club, Fort Worth, Tex. Mr. Purdum will talk on "Some Recent Developments in Subsurface Testing."

C. E. STREETER, prominent Bradford, Pa., oil producer, was seriously injured in an accident which took the lives of three men on a highway 10 miles west of Bradford, Pa., last Friday. Mr. Streeter was in an automobile which was attempting to pass a truck loaded with 500 quarts of nitroglycerin when the truck exploded, blasting the truck to pieces and severely damaging the automobile.

Assumes More Duties

James Anderson, vice president, who recently assumed additional duties as treasurer of Humble Oil & Refining Co., succeeding R. L. Blaffer, who retired, is a native of Maryland. He was born in Rockville, and there attended school. He was graduated from the University of Maryland in 1896, in the school of engineering, and continued his professional training at the Bliss School of Electricity, in Washington, D. C., and Franklin Institute, Philadelphia, Pa.

JAMES ANDERSON

For several years he engaged in varied engineering work, with public - utility companies, shipyards, railroads, and in 1906 entered the oil business as mechanical engineer with Ohio Oil Co. Three years later he went with Standard Oil Co. of Louisiana as assistant superintendent of the crude-oil department. While with this company he also engaged in supervising construction of pipe lines.

In 1919 he joined Humble, and was placed in charge of construction and operation of all pipe lines. That same year he took over the same duties for Humble Pipe Line Co., and a year later was made president of the latter company. In 1921 he became a director and vice president of Humble Oil & Refining Co., in charge of the crude-oil purchasing department.

Mr. Anderson is a past president of the Houston Chamber of Commerce, and has been active in civic affairs for a number of years.

ROSCOE SIMPSON, geologist for Cardinal Oil Co., San Angelo, Tex., recently underwent an emergency appendectomy in a San Angelo hospital.

MERLE F. MYERS, a clerk at Ponca City, Okla., for Carter Oil Co., has sailed from New York to Aruba, Netherlands West Indies, to work for Lago Oil & Transport, Ltd.

THOMAS W. FRANCIS, attorney for Tide Water Oil Co., at Tulsa, Okla., is reported improving at a Tulsa hospital, where he was taken several days ago, suffering from a relapse following an influenza attack.

WARNER B. HAGAN, independent operator in West Texas for the past 15 years, is moving his offices and residence from San Angelo to Fort Worth, Tex., where he will continue to direct operations in the Permian basin.

E. W. SKINNER was the only contestant to break 50 straight at the Houston Gun Club last week, and he won a leg on the oil men's trophy. Mr. Skinner's perfect score came in the handicap when he shot from 18 yards.

JOHN F. DODGE, professor of petroleum engineering, University of Southern California, recently delivered a paper titled "Natural Gas and Gasoline Reserves" at the last monthly meeting of the California Natural Gasoline Association.

FRED Q. CASLER, president, Aero Exploration Co., Tulsa, went into active service last week as first lieutenant, 125th Observation Squadron, Air Service, U. S. Army. His squadron has recently been transferred from the Municipal Airport, Tulsa, to Post Field, Fort Sill, Okla.

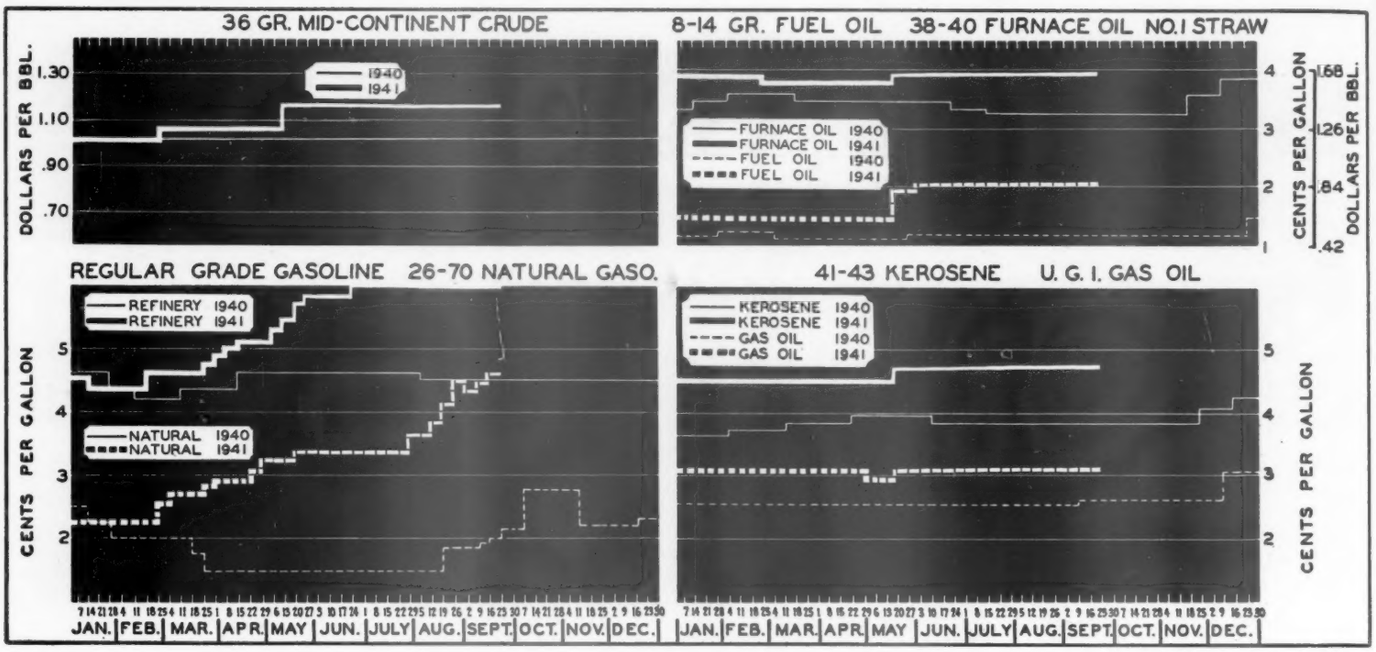
Shifts: PAUL BUTHOD, engineer, Pure Oil Co., from Skokie, Ill., to Tulsa; R. M. BENARDEAU, engineer, Bethlehem Supply Co., from Tulsa to Los Angeles, Calif.; BEN W. ROBERTS, superintendent, Jackson, Wise & Snedden, from Guthrie, Okla., to Tyler, Tex.; E. C. KINCADE, superintendent, Gulf Oil Corp.. from Topeka, Kans., to Houston, Tex.; R. G. DALEY, engineer, Shell Oil Co., Inc., from Claflin, Kans., to Pampa, Tex.; GEORGE O. YOUNG, engineer, Ford, Bacon & Davis, Inc., from Centralia, Kans., to Norman, Okla.; E. G. TODD, superintendent, Parker Drilling Co., from Kawkawlin, Mich., to Cleveland, Okla.; ROLAND F. BEERS, president, Geotechnical Corp., from Cambridge, Mass., to Lincoln, Mass.; A. L. JOYNER, engineer, Ashland Oil & Refining Co., from Catlettsburg, Ky., to Oklahoma City, Okla.; J. A. DEFFEYES, superintendent, Indian Territory Illuminating Oil Co., from Midland, Tex., to Hobbs, N. M.; D. L. CONNELLY, superintendent, Cities Service Oil Co., from Bartlesville, Okla., to Houston, Tex.; W. B. RAPER, foreman, Magnolia Petroleum Co., from Midland, Tex., to Big Spring, Tex.; E. F. BERRYMAN, engineer, Stanolind Oil & Gas Co., from Plainview, Tex., to Brownfield, Tex.; M. A. WRIGHT, engineer, Carter Oil Co., from Seminole, Okla., to Shreveport, La.; A. F. DRISKILL, superintendent, Iraq Petroleum Co., from Kirkuk, Iraq, to Wilmington, Calif.; CLIFFORD MOOERS, president, Shasta Oil Co., from Seattle, Wash., to Houston, Tex.

R. T. ZOOK, of Sloan & Zook Co., was in Tulsa last week visiting his firm's properties in the Mid-Continent field. Mr. Zook has been active in making preparations of the Pennsylvania Grade region's case against the OPACS order reducing and placing a ceiling on the area's crude prices.

RUSH M. BLODGET, executive vice president of Oil Producers Agency, Los Angeles, Calif., has accepted an appointment by Governor Olson of California to the state Council of National Defense. Other members of the council include DANA HOGAN, president Hogan Petroleum Co., chairman; P. H. PATCHIN, Standard Oil Co. of California; L. D. JURS, vice president, Tide Water Associated Oil Co.; A. L. WEIL, former president of General Petroleum Corp. and now chairman of District 5 for the coordinator; W. L. STEWART, JR., vice president of Union Oil Co.; CHARLES S. JONES, president of Richfield Oil Corp.; EDWIN W. PAULEY, president of Petrol Corp.; J. A. SMITH, and R. E. HINES.

I. DEE CAMPBELL, member of the field staff of the Independent Petroleum Association of America, has been transferred to the Washington office of the association. Mr. Campbell has been with I.P.A.A. for about 4 years. His home is in Wichita Falls, Tex. His appointment to the Washington office is a part of a program of expanding the capital bureau of the association, in order to assist members in problems connected with priorities.

TOM H. WALLACE, who has been serving as assistant field superintendent of the producing department in the Houston, Tex., district for Gulf Oil Corp., was transferred to California September 16 to be made field superintendent in charge of all drilling and producing operations of Western Gulf Oil Co. Making his headquarters at the company's Bakersfield offices, he replaces LOT BOWEN, who has been made manager of production and drilling at the headquarters of the company in Los Angeles. Mr. Wallace, a graduate of Texas A. & M. College, has been with the Gulf company for 16 years, and was recently in charge of the company's development work in England. He returned to the United States at the outbreak of the war after a 2-year assignment abroad.



Representative Mid-Continent Quotations on Crude Oil and Refined Products, Basis Oklahoma (Group 3)

Interior Petroleum Markets Gain As Eastern Rail Traffic Expands

By H. STANLEY NORMAN

CRUDE and refined-product movements from the middle western and Mid-Continent states to eastern territory are being transmitted back to the interior in the form of stronger markets. Crude and product prices are threatening to break through the general levels that have prevailed for several weeks.

Lubricating oils, acting almost entirely independent of other products, advanced last week for the eleventh consecutive time since the middle of last March. The latest advance on Mid-Continent lubricating oils, effective September 15, was 1 cent per gallon on most grades. The current market for bright stocks ranges from 22 to 27 cents per gallon which is 8 to 8.5 cents above the prices prevailing when the first 1941 advance was posted March 25.

Movement of lubricating oils into industrial districts is at an unprecedented rate. Refiners have prorated shipments to old customers for several weeks and have declined to accept new business for an equal period. Current shipments are being made at a fixed percentage rate of previous purchases and still refiners are from 3 to 6 weeks behind on their orders. There is an acute shortage of some of the higher quality oils that are being consumed by defense industries as fast as they can be manufactured.

Fuel Prices Stiffen

Demand for kerosene and light distillate fuel oils increased this week and refiners anticipate higher prices for these products before the middle of October. Shipments of light fuels from the Illinois refining centers to the eastern coast or to intermediate areas previously served from seaboard terminals is lifting demand for these products in the Mid-Continent. As an indication of distillate fuel-market action, the tank-wagon price on all heating oils was raised 0.25 cent per gallon late last week in the Chicago district. Consumers are filling storage in an effort to offset even higher prices in the early winter season and to counteract threats of shortages, real or imaginary.

Motor-fuel demand has shown no tendency to diminish although some jobbers are a little less insistent that shipments be made promptly. Major company buying, a reflection of the spread of distributing territories further east as supplies from that direction become less available, is an important factor in the current refinery-gasoline market that has not been present in previous recent years.

Natural-gasoline prices at Oklahoma and Kansas plants were raised 0.125 cent per gallon this week, making the current quotation for 26-lb. material 4.625 cents per gallon. Manufacturers of natural gasoline in the Oklahoma and Kansas territory are invoking proration restrictions on shipments after the fashion of lubricating-oil producers. Much natural is moving to tanks of northern jobbers who are preparing to start blending operations in the near future to meet winter motor-fuel specifications.

There is considerable natural gasoline moving from the Mid-Continent area blended with crude originating in southwestern states. This demand is somewhat abnormal in that part of the crude now moving through the Mid-Continent for delivery by pipe lines, railroads, and a combination of the two transportation mediums was transported in previous recent years by tankers from the Gulf Coast to the eastern seaboard.

Producers Seek Higher Prices

The clamor for higher crude-oil prices in the Mid-Continent and other southern producing areas became more vociferous during the week as the costs of operating continued to climb. Higher operating costs were not confined to the producing branch of the industry but any breakthrough in the market for crude would force refiners to lift product prices.

Indications are that the eastern movement of both crude and refined products from Middle West and Mid-Continent fields and refining centers will continue to grow through most of the winter. Oils to replace those normally produced, refined, and consumed in Michigan, Illinois, Indiana, and Ohio which are now moving east at a higher rate will be drawn from the Mid-Continent, Texas, Louisiana, Arkansas, and New Mexico, probably at higher prices.

Early this week, Texas manufacturers of natural gasoline advanced their tank-car prices 0.125 cent per gallon. Recent sales of motor fuel on the Gulf Coast have attracted heavier shipments to southern refining centers.

Refined Oil Market Barometer

Crude and products markets throughout the eastern part of the country remain strong and are pressing against the highs of quoted ranges in most instances. Another advance of 1 cent per gallon in Mid-Continent lubricating oils was posted last week. Higher prices are anticipated.

MID-CONTINENT: Demand for natural far exceeds supplies.

GULF COAST: Major company buying lifts gasoline and fuel prices.

CALIFORNIA: Purchasers are threatening pipeline proration.

PENNSYLVANIA: Cylinder oils are strong and wax is higher.

CHICAGO: Search for distillate fuels gaining momentum.

Interdistrict Adjustments of Eastern Gasoline Authorized

By J. P. O'DONNELL

NEW YORK, Sept. 23.—While prices in the main continued unchanged in the East Coast marketing district last week, there were a number of developments, including a revision of the gasoline-rationing plan, reports of greatly increased export buying and evidences of a marked improvement in the statistical position of the industry, which were of unusual interest. The revision in the gasoline-rationing plan was undertaken to assure supplies in metropolitan New York where several service stations were reported to have already exhausted their September quotas and hundreds of others were nearing the exhaustion point.

Under the revised plan, supplying companies will be permitted to transfer supplies from areas where excesses exist to others where there are shortages. The revision, acceding to a request by metropolitan station owners who complained that gasoline consumption rose in the city at this time while declining in resort and rural areas, was authorized by Dr. John W. Frey, director of marketing in the Office of Petroleum Coordinator.

Dr. Frey's ruling was issued to H. W. Dodge, chairman of District 1 marketing committee. It stated, "Individual companies may transfer gasoline overages from certain states or areas in District 1 to offset shortages in other states, areas or individual dealer locations in District 1 where September allotment is inequitable or inadequate to meet seasonal demand. Such procedure will permit an increase in gasoline allowable to dealers in those states or areas where original September restrictions are causing hardship."

The ruling was announced by John A. Brown, chairman of the District 1 general committee, who cautioned dealers that it did not imply that there was to be any increase in allotments or that it would enable them to obtain any quantities they desired. The intention of the revision was merely to accommodate the transfer in consumption centers from vacation areas to metropolitan areas. Allocation of these supplies will be left up to the oil companies since no method of allocation has been adopted or approved by the East Coast marketing committee.

The export picture was improved by the report that the British are in the market for the largest quantity of motor fuel sought so far at one time. This motor fuel, including both high and low-octane material, will be for October delivery. One reason for this concentration of motor-fuel orders is said to be the availability of clean tankers which is expected to be at a peak next month. Inquiries for lubricating oils, under new specifications, are expected soon and a continuance of high demands for crude-scale wax is also anticipated.

Improvement in the statistical position of the East Coast division of the industry was shown in reports for the second week of September during which stocks of crude oil and the major refined products on the coast rose more than 700,000 bbl., an average of better than 100,000 bbl. per day and the most substantial addition since the withdrawal of tankers from coastwise service. Crude-oil stocks fell 203,000 bbl. and gasoline stocks 565,000 bbl., but these declines were offset by increases of 747,000 bbl. in light fuel-oil stocks and 743,000 bbl. in residual fuel-oil inventories. The addition to heavy fuel-oil stocks was particularly encouraging in view of the concern that had been felt over the continued low level of these stocks. Despite the size of the increase, it was still far from sufficient to insure an ability to meet winter demands without heavy withdrawals from storage.

It was disclosed during the past week that another eastern oil company will supply at least part of its crude requirements by rail transportation. Cities Service Oil Co. has made preliminary arrangements to move 4,000 bbl. of Illinois crude to its Petty's Island refinery and 2,000 bbl. per day to its East Braintree, Mass., refinery. Such a volume would meet 20 per cent of the rated requirements on the former and 10 per cent of the needs of the latter. Both refineries have a capacity of 20,000 bbl. of crude oil per day. Some of the company's refined product requirements will also be met by rail shipments, the announcement by J. S. Cordell, vice president and general manager, stated, and the first shipment of 40 cars of fuel oil was scheduled to be received last week. Additional unloading facilities are being installed at both refineries to accommodate the shipments. There was also activity in the tanker market last week. This market has been almost completely devoid of activity since the transfer of 80 tankers to the British shuttle service. The Swedish tankers were reported chartered, one, the Saturnus, for the delivery of a dirty cargo from Venezuela to Montevideo at a rate reported at approximately $16 per ton, and the other, the St. Gobain, which is to be employed in Gulf-Caribbean service. It was also disclosed last week that there has been some complaint over the tanker-rate ceilings but whether or not a revision will be obtained was not indicated.

Recent improvements in crude-scale wax prices has been communicated to refined grades and the latter are now quoted as high as from 7 to 7.5 cents per pound, depending on the melting point. A recent increase in export demand coupled with record domestic requirements is responsible for the increase in spot wax quotations. However, the bulk of deliveries are being made under contract at rates 20 per cent under the minimum spot prices.

Major-Company Buying Stimulates Gulf Market

HOUSTON, Tex., Sept. 23.—Demand for kerosene and gas oil took a new spurt on the Gulf Coast the past week as several major companies became active on the buying end. Numerous inquiries were being circulated for material. Considerable additional lend-lease-bill buying of gasoline also was reported. While much of this business went to several of the larger companies, it was indicated part of the orders will be filled from smaller independents when the material is available from them. Price trends were generally upward.

Gulf Coast independents continue short on gasolines with practically all current output still being required to meet previous commitments. One buyer with a bona fide inquiry for high-octane gasoline (above 80 research) was reported unable to fill his requirements although offering 6¾ cents. Expecting to share in lend-lease buying by the Navy Department, independent refiners do not expect to have much gasoline open for some time. Most of the kerosene buying is on the basis of 3¾ cents minimum, although no sales have actually been reported at 4 cents. Several independent refiners with supplies are maintaining 4-cent quotations but not moving material at that figure. They still indicate they cannot sell below that figure.

Gas oil (No. 2 fuel) has strength-

(Continued on next page)

A.P.I. Weekly Refinery Statistics

Week Ended September 20, 1941

	Capacity reporting (per cent)	Total gasoline stocks (bbl.)	Residual fuel-oil stocks (bbl.)	Gas oil and distillate stocks (bbl.)	Daily crude runs (bbl.)
East Coast	100.0	19,394,000	10,042,000	17,645,000	605,000
Appalachian	83.8	2,968,000	553,000	618,000	142,000
Ind., Ill., and Ky.	84.4	14,450,000	4,506,000	5,635,000	653,000
Okla., Kans., and Mo.	80.7	6,599,000	2,019,000	2,091,000	311,000
Inland Texas	63.2	2,159,000	1,322,000	479,000	123,000
Texas Gulf	91.0	11,232,000	7,823,000	6,211,000	1,011,000
Louisiana Gulf	94.2	3,122,000	2,126,000	1,662,000	165,000
N. Louisiana and Ark.	49.9	360,000	410,000	374,000	58,000
Rocky Mountains	50.1	994,000	402,000	133,000	62,000
California	90.9	13,551,000	64,377,000	12,699,000	513,000
Total reported	86.4	74,829,000	93,580,000	47,547,000	3,643,000
Est. unreported		5,370,000	1,425,000	1,360,000	352,000
*Est. total		†80,199,000	95,005,000	48,907,000	3,995,000
*Est. total previous wk.		80,555,000	95,753,000	47,271,000	4,010,000
*Sept. 21, 1940		82,565,000	107,403,000	47,439,000	3,680,000

*Bureau of Mines. †Includes 7,539,000 bbl. aviation gasoline.

Stocks of Crude Oil in the United States

(BUREAU OF MINES ESTIMATES)

Week ended September 13, 1941	246,164,000 barrels
Week ended September 6, 1941	247,528,000 barrels
Week ended September 14, 1940	262,475,000 barrels

Figures do not include stocks of heavy, unrefinable California crude.

RETAIL OIL MARKETS...

Tank-wagon and filling-station prices on gasoline and kerosene furnished by larger marketing firms

Prices as of September 23, 1941

Taxes

The gasoline quotations given in the following tables include the 1½-cent federal tax, as well as state, county, and city taxes. The gasoline is the regular or standard grade. In most areas lower grades and a premium grade also are available.

Standard Oil Co. (Indiana)

	Gasoline Tank wag.	Gasoline Dlr.	Gasoline Inc. tax	Kero. tank wag.
Chicago, Ill.	16.1	14.1	4.5	10.3
Decatur	15.4	13.4	4.5	9.5
Joliet	16.4	14.1	4.5	10.3
Peoria	16.2	14.7	4.5	10.1
Quincy	13.4	12.4	4.5	10.0
Davenport, Ia.	16.2	14.7	4.5	10.1
Des Moines	15.9	11.9	4.5	9.8
Mason City	16.2	14.7	4.5	10.1
Duluth, Minn.	17.7	16.2	5.5	10.6
Mankato	17.4	15.9	5.5	10.3
Minneapolis	17.4	15.9	5.5	10.3
La Crosse, Wis.	17.4	15.9	5.5	10.3
Green Bay	17.7	16.2	5.5	10.6
Milwaukee	17.6	16.1	5.5	10.5
Detroit, Mich.	15.9	14.4	4.5	9.6
Grand Rapids	15.9	14.4	4.5	9.6
Saginaw	15.9	14.4	4.5	9.6
Evansville, Ind.	16.9	15.4	5.5	9.6
Indianapolis	17.1	15.2	5.5	9.8
South Bend	17.5	16.0	5.5	10.2
Fargo, N. D.	18.4	16.9	5.5	11.3
Huron, S. D.	17.8	16.3	5.5	10.7
Kansas City, Mo.*	14.9	13.4	4.5	9.4
St. Louis*	14.8	13.3	4.5	9.8
St. Joseph	15.7	14.2	4.5	9.6
Wichita, Kans.	14.8	12.7	4.5	8.0

*State tax 2 cents, 1-cent city tax, and 1½-cent federal tax.

Exclusive of state general sales taxes.

Discounts to commercial consumers. On purchases per month off tank-wagon prices: 1,000 gal. or more, 1.5 cents off, minimum delivery 25 gal.

Stanolex Fuel Oil in Chicago

Effective Sept. 18, 1941, f.o.b. Chicago, tank-wagon prices: Standard heater oil, 1-99 gal., 9.0 cents; 100-149 gal., 8.0 cents; 150 gal. and over, 7.5 cents. Stanolex fuel oil No. 1, 1-99 gal., 8.5 cents; 100-149 gal., 7.5 cents; 150-399 gal., 7.5 cents; 400 gal. and over, 7.0 cents. Stanolex furnace oil, 1-99 gal., 8.5 cents; 100-149 gal., 7.5 cents; 150-399 gal., 7.5 cents; 400 gal. and over 7.0 cents. Stanolex fuel oil A, 1-99 gal., 8.0 cents; 100-399 gal., 7.0 cents; 400-749 gal., 6.0 cents, 750 gal. and over, 5.25 cents. Stanolex fuel oil B, 1-99 gal., 8.0 cents; 100-399 gal., 7.0 cents; 400-749 gal., 6.0 cents; 750 gal. and over 5.25 cents. Stanolex Bunker C fuel oil, 1-399 gal., 6.5 cents; 400-999 gal., 5.5 cents; 1,000 gal and over, 4.5 cents.

Ohio

STANDARD OIL CO. OF OHIO

	Gasoline Cons'r tank car wag.	Gasoline Dlr. divided wag.	Gasoline Inc. tax	Kero. tank wag.
Ohio points	16.0	15.0	5.5	*9.0

*Includes state tax of 1 cent.

Southern District

STANDARD OIL CO. (KENTUCKY)

	Gasoline Cons'r tank car wag.	Gasoline Net dlr.	Gasoline Inc. tax	Kero. tank wag.
Atlanta, Ga.	18.00	18.00	7.5	10.0
Augusta	18.00	18.00	7.5	9.5
Macon	18.00	18.00	7.5	10.0
Savannah	17.00	17.00	7.5	9.0
Birmingham	18.50	18.50	8.5	8.0
Mobile	18.50	18.50	9.5	8.5
Montgomery	19.50	19.50	9.5	10.0
Jackson, Miss.	17.50	17.50	7.5	9.0
Vicksburg	17.00	17.00	7.5	8.5
Jacksonville, Fla.	18.00	18.00	8.5	8.0
Miami	18.00	18.00	8.5	8.0
Pensacola	18.50	18.50	9.5	8.0
Tampa	18.00	18.00	8.5	8.0
Lexington, Ky.	17.00	17.00	6.5	9.0
Covington	16.0	16.0	6.5	9.0
Louisville	16.50	16.50	6.5	8.5
Paducah	16.50	16.50	6.5	8.5

Price basis to tank-wagon consumers, effective January 4, 1937, 3 cents per gallon below tank-wagon price.

Montgomery, Ala., has a county tax of 1 cent per gallon, and a city tax of 1 cent per gallon on gasoline, in addition to state tax, and 1 cent per gallon on kerosene. Mobile, Ala.. has a city gasoline tax of 2 cents per gallon; Birmingham, Ala., has a city gasoline tax of 1 cent per gallon; Pensacola, Fla., has a city gasoline tax of 1 cent. All are included in the table.

Atlantic Coast District

STANDARD OIL CO. OF NEW JERSEY

	Gasoline Cons'r tank car wag.	Gasoline Dlr. tank wag.	Gasoline Inc. tax	Kero. tank wag.
Atlantic City	13.0	14.0	4.5	7.9
Newark	13.0	14.0	4.5	7.9
Annapolis	13.85	15.35	5.5	9.7
Baltimore	13.25	14.75	5.5	8.7
Cumberland	14.65	16.15	5.5	10.2
Washington, D. C.	11.50	13.00	3.5	9.2
Danville, Va.	15.45	17.45	6.5	10.45
Norfolk	14.25	16.25	6.5	10.2
Petersburg	14.55	16.55	6.5	11.2
Richmond	14.55	16.55	6.5	11.2
Roanoke	15.75	17.75	6.5	10.7
Charles'n, W. Va.	15.55	18.05	6.5	11.5
Parkersburg	14.85	17.35	6.5	11.2
Wheeling	15.25	17.35	6.5	11.8
Charlotte, N. C.	17.40	18.90	7.5	9.5
Hickory	17.95	19.45	7.5	10.5
Mount Airy	17.80	19.30	7.0	9.7
Raleigh	17.15	18.65	7.0	10.5
Salisbury	17.45	18.95	7.5	10.9
Charleston, S. C.	15.25	17.75	7.5	(*)
Columbia	16.10	18.60	7.5	(*)
Spartanburg	16.80	19.30	7.5	(*)

Price basis to Essolene undivided dealers: Dealer tank-wagon price less 0.5 cent per gallon. Price basis to commercial consumers, effective March 8, 1937, in Maryland, District of Columbia, and in Arlington and Fairfax counties in Virginia and March 12 in New Jersey: To contract accounts purchasing at least one full compartment at a time by hose connections, on yearly purchases: From 2,500 to 100,000 gal., consumer tank-wagon price at time and place of delivery: 100,000 gal. per year, consumer tank-car price plus 0.5 cent per gallon. Consumer tank-wagon price generally will be equivalent to dealer tank-wagon price less 0.5 cent per gallon.

Effective January 16, 1939, in North Carolina the commercial consumer schedule became as follows: Single deliveries of 50 gal. or more, consumer tank-wagon price. Single deliveries of less than 50 gal., 4 cents per gallon over consumer tank-wagon price. Generally the posted consumer tank-wagon price will be equivalent to the dealer price, less 0.5 cent per gallon. The above policy also applies in South Carolina, effective January 23, 1939.

*Kerosene business of the company at these points now exclusively handled by dealers.

Pennsylvania and Delaware

ATLANTIC REFINING CO.

	Gasoline Cons'r tank car wag.	Gasoline Dlr. tank wag.	Gasoline Inc. tax	Kero. tank wag.
Philadelphia, Pa.	14.0	15.0	5.5	10.15
Pittsburgh	14.5	15.5	5.5	10.5
Allentown	14.5	15.5	5.5	10.5
Erie	14.5	15.5	5.5	10.0
Scranton	14.5	15.5	5.5	10.5
Altoona	14.5	15.5	5.5	10.5
Dover, Del.		15.5	5.5	10.5
Wilmington		15.0	5.5	10.0

Price basis to undivided dealers, dealer tank-wagon price less 0.5 cent per gallon.

Discount on kerosene, 2 cents per gallon off tank-wagon price on tank-wagon deliveries of 25 gal. or more at one time.

Pacific Coast Territory

STANDARD OIL CO. OF CALIFORNIA

	Gasoline Tank truck wag.	Gasoline Serv. sta.	Gasoline Inc. tax	Kero. tank wag.
San Francisco	17.5	18.5	4.5	11.5
Los Angeles	17.0	18.0	4.5	10.0
Fresno, Calif.	18.5	19.5	4.5	12.5
Phoenix, Ariz.	21.5	22.5	6.5	12.5
Reno, Nev.	20.5	21.5	5.5	13.5
Portland, Ore.	20.0	21.0	6.5	13.5
Seattle, Wash.	20.0	21.0	6.5	13.5
Spokane	22.0	23.0	6.5	16.5
Tacoma	20.0	21.0	6.5	13.5

Discount to dealers: On gasoline, off tank-wagon price, to 100 per cent dealers, 3 cents. To commercial consumers: On tank-wagon price; on single deliveries of 40 gal. and over, advance quantity discount extended at time of delivery, 3 cents. Service-station schedule applies on single deliveries less than 40 gal. On kerosene in tank-car, transport-truck, and trailer delivery, 3 cents off tank-wagon price; plant deliveries to jobbers, 2.5 cents below tank wagon.

March 18, 1939, split dealer discount was canceled.

New York and New England

SOCONY-VACUUM OIL CO., INC.

	Gasoline Comm. tank wag.	Gasoline Dlr.* tank wag.	Gasoline Inc. tax	Kero. tank wag.
Albany	14.2	14.7	5.5	7.7
Met. New York	14.4	14.9	5.5	8.0
Buffalo	14.5	15.0	5.5	6.3
Rochester	15.1	15.6	5.5	8.8
Syracuse	14.8	15.3	5.5	8.7
Portland, Me.	14.6	15.1	5.5	8.1
Manchester, N. H.	15.6	16.1	5.5	9.0
Burlington, Vt.	15.2	15.7	5.5	8.3
Boston, Mass	13.2	13.7	4.5	8.0
Worcester	13.8	14.3	4.5	8.1
Hartford, Conn.	13.9	14.4	4.5	7.6
New Haven	13.3	13.8	4.5	6.9
Providence, R. I.	13.3	13.8	4.5	7.8

*Undivided.

Effective August 8, 1940, the company changed its commercial consumer policy in New York and New England to the following:

Full compartment deliveries: Accounts buying less than 20,000 gal. annually, 0.5 cent above the commercial-consumer price; accounts buying from 20,000 to 120,000 gal. annually, commercial-consumer price; accounts buying 120,000 gal. annually and above, 0.25 cent off consumer price. Split compartment deliveries: Delivery of less than a full compartment, 250 gal., commercial-consumer price plus 1 cent. Steel-barrel deliveries: Commercial price plus 3 cents.

Rocky Mountain District

CONTINENTAL OIL CO.

	Gasoline Tank wag.	Gasoline Inc. tax	Kero. tank wag.
Denver, Colo	14.5	5.5	11.0
Grand Junction	18.0	5.5	12.5
Pueblo	14.5	5.5	9.5
Casper, Wyo.	17.0	5.5	12.0
Cheyenne	16.0	5.5	11.5
Billings, Mont.	18.0	6.5	12.5
Butte	17.0	6.5	13.5
Great Falls	17.0	6.5	12.5
Helena	17.0	6.5	13.0
Salt Lake, Utah	18.5	6.5	14.5
Boise, Idaho	†20.1	6.5	16.5
Twin Falls	†21.1	6.5	17.0
Albuquerque, N. M.	*17.5	7.0	10.0
Roswell	*15.5	7.0	8.5
Santa Fe	‡18.0	7.5	10.0

*Includes city tax of 0.5 cent. †Includes toll-bridge tax of 1 mill. ‡Includes city tax of 1 cent.

Tank wagon represents price to consumers. Dealer represents price to dealers. If no dealer price is quoted, the tank-wagon price applies to all classes of trade.

Central South District

STANDARD OIL CO. OF LOUISIANA

	Gasoline Cons'r tank car wag.	Gasoline Dlr. tank wag.	Gasoline Incl. tax	Kero. tank wag.
New Orleans, La.	15.25	17.25	8.5	‡10.0
Baton Rouge	15.25	17.25	8.5	‡10.5
Alexandria	15.25	17.25	8.5	‡10.5
Lafayette	15.50	18.00	8.5	‡10.0
Lake Charles	15.50	18.00	8.5	‡10.0
Shreveport	15.0	17.0	8.5	9.0
Knoxville, Tenn.	18.00	20.50	8.5	12.5
Memphis	16.25	18.75	8.5	10.5
Chattanooga	17.50	19.5	8.5	11.0
Nashville	17.75	19.5	8.5	10.0
Bristol	18.25	18.75	8.5	12.0

Essolene at dealer price less 0.5 cent per gallon to undivided dealers.

‡Includes 1-cent state tax.

Price basis to commercial consumers: Deliveries of 50 gal. or more in one territory take posted consumer tank-wagon price. Accounts taking deliveries of less than 50 gal. at one time pay posted consumer tank-wagon price plus 4 cents per gallon. Generally, the posted consumer tank-wagon price will be equivalent to the dealer price less 0.5 cent per gallon. Kerosene prices include 1-cent state tax.

Oklahoma and Arkansas

CONTINENTAL OIL CO.

	Gasoline Tank wag.	Gasoline Incl. tax	Kero. tank wag.
Texarkana, Ark.	14.0	5.5	6.0
Fort Smith	15.5	7.0	6.5
Little Rock	17.25	8.0	8.0
Muskogee, Okla.	15.0	7.0	8.0
Oklahoma City	15.0	7.0	8.0
Tulsa	15.0	7.0	8.0

Tank wagon represents price to consumers. If no dealer price is quoted, the tank-wagon price applies to all classes of trade.

Nebraska

STANDARD OIL CO. OF NEBRASKA

	Gasoline Tank wag.	Gasoline Dlr.	Gasoline Incl. tax	Kero. tank wag.
Omaha	17.9	15.4	6.5	9.8
McCook	18.5	15.9	6.5	9.5
Norfolk	18.4	16.9	6.5	10.3
North Platte	18.8	16.4	6.5	10.7
Scottsbluff	18.9	16.0	6.5	10.0

Discounts to commercial consumers for tank-wagon deliveries covered only by standard commercial consumers contract, effective January 1, 1935.

Texas

	Gasoline Tank wag.	Gasoline Serv. sta.	Gasoline Incl. tax	Kero. tank wag.
Dallas, Tex.	14.0	17.0	5.5	7.0
Fort Worth	14.0	17.0	5.5	7.0
Houston	14.0	18.0	5.5	8.0
San Antonio	14.0	18.0	5.5	7.0

Naphtha

STANDARD OIL CO. (INDIANA)

	Tank wagon*
Oleum spirits	16.2
V.M.&P. naphtha	16.5
Cleaners' naphtha	15.5
Stanisol	15.5

*Prices include 3-cent Illinois tax but not 1-cent federal tax nor 2 per cent retail occupational tax.

Prices f.o.b. Chicago. Each price subject to discount of 1 cent per gallon for 150-gal. lots if covered by contract.

Canada*

3-Star Imperial Gasoline

IMPERIAL OIL, LTD.

	Gasoline Tank wag.	Gasoline Incl. tax	Kero. tank wag.
Halifax, N. S.	28.5	13.0	19.0
St. John, N. B.	28.5	13.0	19.0
Montreal, Que.	27.0	11.0	17.5
Toronto, Ont.	27.5	11.0	18.0
Hamilton, Ont.	27.5	11.0	18.0
Winnipeg, Man.	30.5	10.0	22.5
Brandon, Man.	31.0	10.0	23.0
Regina, Sask.	28.0	10.0	20.0
Saskatoon, Sask	30.8	10.0	22.8
Edmonton, Alta.	28.9	10.0	20.9
Calgary, Alta.	26.0	10.0	18.0
Vancouver, B. C.	25.0	10.0	24.0

*Imperial gallon used in Canada.

Divided dealers pay tank-wagon prices. Discount to undivided dealers, 1 cent below tank-wagon price. In Maritime Provinces both divided and undivided dealers pay tank-wagon price.

Tank-Wagon Changes

Standard Oil Co. (Indiana) reduced the dealer price of motor fuel 1 cent per gallon at Des Moines, Iowa, September 12. The company raised the tank-wagon price of heating oil 0.25 cent per gallon in the Chicago area, effective September 18.

Gulf Coast Markets

(Continued from Preceding Page)

ened to a low of 3⅝ cents as a result of the new buying. Some of the earlier sales during the week were made at 3½ cents but material at this price now is believed taken up in support of the ⅛-cent advance. Like in kerosenes, several of the larger sources of supply still are refusing to sell under 3¾ cents.

A strong front still is presented by residual fuels with Bunker C grade practically cleaned up so far as independent sources of supply are concerned.

PRICES OF REFINED PRODUCTS...

All quotations f.o.b. plant in cars for interstate or export movement except as otherwise noted

Prices as of September 23, 1941
(Most prices in cents per gallon)

The quotations are exclusice of the federal excise taxes of 1.5 cents a gallon on gasoline and 4 cents a gallon on lubricating oils. Octane ratings in Middle West, Mid-Continent, and Southwest are based on A.S.T.M. method of testing.

Refinery Gasoline

OKLAHOMA (Group 3)—

U. S. Motor grades:		
72-74 octane (regular)	.06	.0625
63-66 octane	.05625	.05875
60 octane and below	.0525	.055
60-62 400 grades:		
72-74 octane (regular)	.06	.0625
63-66 octane	.05625	.05875
60 octane and below	.0525	.055

NORTH TEXAS—

U. S. Motor grades:		
72-74 octane (regular)	.05875	.06125
63-66 octane	.0550	.06
60 octane and below	.05125	.05375
60-62 400	.05	.06

NORTH LOUISIANA (Ark. and N. La. delivery)—

U. S. Motor grades:		
72-74 octane (regular)	.05875	.06125
63-66 octane	.0550	.05875
60 octane and below	.05	.06

ARKANSAS (Ark. and N. La. del.)—

U. S. Motor grades:		
72-74 octane (regular)	.05875	.06125
60 octane and below	.05	.05375

CHICAGO (Based on Group 3)—

U. S. Motor grades:		
72-74 octane (regular)	.06	.0625
63-66 octane	.05625	.05875
60 octane and below	.0525	.055
60-62 400 grades:		
72-74 octane (regular)	.06	.0625
63-66 octane	.05625	.05875
60 octane and below	.0525	.055

PENNSYLVANIA (inland refineries)—

74-76 octane (regular)	.0750	.0775
80 octane (1939 Research)		.0800

CALIFORNIA (domestic movement)—

58-60 400, 65 oct. and higher	.065	.0725
54-58 U. S. Motor	.0575	.0625

EAST COAST (domestic)—

U. S. Motor (minimum 72 octane):		
New York (Bayonne)*	.08	.085
Philadelphia	.08	.0825
Boston	.085	.09
Baltimore	.08	.0825
Charleston, S. C.	.0725	.0775

*All grades of gasoline ½ to ¾ cent less for barge shipments. New York Harbor prices are for New York and New England delivery. Prices for New Jersey delivery ¼ cent lower.

GULF COAST (domestic)—

U. S. Motor grades:		
80 (research)		.0650
72-74 octane (leaded)	.0625	.06375
70-72 octane (unleaded)	.0625	.06375
68-70 octane (unleaded)		.0600

Natural Gasoline

OKLAHOMA (Group 3)—

Grade 26-70	.04625
Grade 18-55	.055

NORTH TEXAS—

Grade 26-70	.04375
Grade 18-55	.0525

CALIFORNIA—

75-85 375-390	.045	.05

NORTH LOUISIANA (Ark. and N. La. delivery)—

Grade 26-70	.04125

Tractor Fuel

OKLAHOMA (Group 3)—

40-42 gr., 315-325 i.b.p. 110-flash, 540-550 e.p.	.0375	.03875
41-43 gr., 300-320 i.b.p. 110-125 flash, 500-520 e.p.	.03875	.04
46-48 gr., 210-230 i.b.p. 480 max., e.p.	.04125	.0425

Kerosene

(All kerosene water white)

OKLAHOMA (Group 3)—

42-44	.0450	.0475
41-43	.04375	.04625

NORTH TEXAS—

41-43	.0425	.04625

NORTH LOUISIANA (Ark. and N. La. delivery)—

41-43	.04375	.04625

ARKANSAS (Ark. and N. La. del.)—

41-43	.04375	.04625

PENNSYLVANIA (inland refineries)—

46	.06	.065
45	.06	.06375

CHICAGO (Based on Group 3)—

42-44	.0450	.0475
41-43	.04375	.04625

CALIFORNIA (Pac. Coast market)—

38-40 high-burning test	.045	.055

NEW YORK (Bayonne, N. J.)—

41-43	.055

GULF COAST (domestic)*—

41-43	.0375	.04

*Barge price ⅛ cent lower.

Furnace Oil

OKLAHOMA (Group 3)—

Range oil	.04	.0425
No. 1 white (38-42)	.03875	.04125
No. 2 straw (32-36)	.0350	.0375
No. 3 zero to 10 (28-32)	.03375	.03625

NORTH TEXAS—

No. 1 white (38-42)	.03825	.04125

NORTH LOUISIANA (Ark. and N. La. delivery)—

No. 2 (32-36)	.0325	.035

ARKANSAS (Ark. and N. La. del.)—

No. 2, 32-36	.0325	.035

CHICAGO (Based on Group 3)—

Range oil	.04	.0425
No. 1 white (38-42)	.03875	.04125
No. 2 straw (32-36)	.035	.03625
No. 3 zero to 15 (28-32)	.03375	.035

NEW YORK (Bayonne, N. J.)—

*No. 1		.055
*No. 2	.051	.0525
*No. 3	.051	.0525

*Barge deliveries ⅛ to ¼ cent under above tank-car price.

Gas Oil and Fuel Oil

(Gas oil per gal., fuel oil per bbl.)

OKLAHOMA (Group 3)—

No. 5, low pour point (18-22)	.85	.90
No. 6, 15 and above (10-16)	.85	.90

NORTH TEXAS—

No. 5, low pour point (18-22)	.80	.85
No. 6, 15 and above (10-16)	.80	.85

NORTH LOUISIANA (Ark. and N. La. delivery)—

10-14 fuel oil, industrial	.80	.85

CHICAGO (Based on Group 3)—

No. 5, low pour point (18-22)	.85	.90
No. 5, 15 and above (18-22)	.85	.90
No. 6, low pour point (10-16)	.85	.90
No. 6, 15 and above (10-16)	.85	.90

PENNSYLVANIA (inland refineries)—

36-40	.05875	.0625

CALIFORNIA—

Los Angeles:		
30-40 gas oil, per bbl.	1.10	1.25
24 plus diesel, per bbl.	1.10	1.25
24 plus diesel (bunkers)	1.20	1.35
12-16 (bunkers at tidewater)	.75	.85
10-16 (cargo lots)	.75	.85
12-17 (tank cars)	.65	.75
10-17 (high sulfur)	.55	.65
San Joaquin Valley:		
10-18 (tank cars)	.70	.85
24 plus diesel, per bbl.	1.10	1.25
San Francisco:		
24 plus diesel, per bbl.	1.35	1.40
24 plus diesel (bunkers)	1.40	1.50
10-16 (bunkers)	.80	.85

GULF COAST—

No. 2 fuel	.03625	.0375
43-47 diesel		.035
48-52 diesel	.03625	.0375
53-57 diesel	.0375	.03875
58-and-above diesel		.03875
Diesel bunkers		1.45
Bunker C (bulk cargoes)	.85	.90
Bunker C (bunkers)		.85

NEW YORK (Bayonne, N. J.)—

27 plus, gas oil		.050
28-30 diesel (lighterage 6½c per bbl.)		2.15
28-30 diesel (tank cars)		.05
Bunker C (to ocean-going ships in N. Y. Harbor)	1.35	1.45
Industrial fuel (tank cars)		.044

Lighterage charge 5c bbl. additional.

Bright and Steam Refined

OKLAHOMA (Group 3)—

200-210 D, 10-25		.27
150-160 D, 0-10		.23
150-160 D, 10-25		.225
120-125 D, 0-10		.225
120-125 D, 10-25		.22
Steam refined:		
600 dark green (untreated)		.145

PENNSYLVANIA—

Bright Stocks (Pennsylvania Grade No. 8 color, 140-150 at 210, 545-550 flash):		
10 pour point		.295
15 pour point		.285
25 pour point	.25	.28
Steeam refined:		
600	.14	.16
650	.145	.165
600 flash	.15	.17
630 flash	.16	.175

Neutral Oil

(Vis. at 100° F. except Pennsylvania and color N.G.A.)

OKLAHOMA (Group 3)—

0-10 pour point:		
150-3		.145
180-3		.15
200-3		.15
250-3		.165
280-3		.175
280-4		.17
300-3		.185
350-3½		.19
400-3½		.20
500-3½		.205
600-3½		.21
100-2½ paraffin oil 10-25		.0825
10-25 pour point:		
200-3		.145
250-3		.16
280-3		.17
280-4		.165

CALIFORNIA (moving to dom. mkt.)—

Pale oils:		
200-2½-3	.07	.0775
300-2½-3	.07	.0775
400-3-4	.0725	.08
450-3-4	.0725	.08
550-3-4	.0875	.1075
600-3-4	.0875	.11
Red oils:		
200-4-5	.07	.0775
300-5-6	.0725	.08
350-5-6	.09	.11
400-5-6	.09	.11
450-5-6	.09	.1125
500-5-6	.0925	.1125
600-5-6½	.0925	.1125
700-6½ plus	.0925	.1125
750-6½ plus	.0925	.1125
900-6½ plus	.0925	.1125

GULF COAST—

Pale oils:		
100-3	.0625	.0650
200-3	.0850	.0875
300-3	.09	.0925
500-3½	.0975	.10
750-3½	.10	.1025
1,200-3½	.1025	.10375
2,000-4	.1050	.1075
3,000-4	.1225	.1250

PENNSYLVANIA—

150 vis. at 70° F., 3 color, 400-405 flash:		
Zero pour point		.385
10 pour point		.375
15 pour point		.365
25 pour point	.31	.35
200 vis., at 70° F., 3 color:		
Zero pour point		.40
10 pour point		.395
15 pour point		.385
25 pour point	.33	.37

Wax and Petrolatum

(Prices per pound)

OKLAHOMA (Group 3)—

124-126 (A.m.p.) w.c. scale	.055	.0575

PENNSYLVANIA (inland refineries)—

122-124 (A.m.p.) w.c. scale	.055	.06
124-126 (A.m.p.) w.c. scale	.055	.06

NEW YORK—

Wax in bags fully refined:		
125-127 (A.m.p.) wax	.0560	.0640
128-130 (A.m.p.) wax	.0560	.0660
130-132 (A.m.p.) wax		.0585
133-135 (A.m.p.) wax		.0615
135-137 (A.m.p.) wax		.0640
Crude scale:		
124-126 (A.m.p.) w.s.	.055	.06
124-126 (A.m.p.) y.s.	.055	.06
Petrolatum in barrels, carload lots:		
Dark green		.02875
Amber	.02875	.03125
Extra amber	.03125	.03375
Lily white	.04875	.05375
Snow white	.05625	.05750
Cream	.04125	.05250

Export Prices

GASOLINE

GULF COAST—

60-62 400	.0525	.065
61-63 390	.0575	.06375
64-66 375	.0575	.06375

LOS ANGELES—

U. S. Motor grades:		
Above 60 octane	.06	.0625
65-69 octane	.0575	.06
60-65 octane	.0525	.055

KEROSENE

GULF COAST—

41-43 water white	.035	.0375

LOS ANGELES—

41-43 water white	.05	.0525

LUBRICANTS

(Pennsylvania Grade)

NEW YORK (f.a.s. in bbl.)—

Cylinder stocks:	
600 S.R. unfiltered	.23
630 S.R. unfiltered	.235
600 flash, S.R.	.24
650 flash, S.R.	.25
Bright stock:	
Light, 25 pour point	.34 .35

NEUTRAL OIL

200-3 color	.43	.50
150-3 color	.41	.46

PARAFFIN WAX

NEW YORK (prices per bbl.)—

123-125 A.m.p.	.0560	.0625
125-127 A.m.p.	.0560	.0625
128-130 A.m.p.	.0585	.0650
133-135 A.m.p.	.0615	.0700
135-137 A.m.p.	.0640	.0700
Crude scale:		
124-126 w.s.	.0575	.06
124-126 y.s.	.0575	.06

Crude Price Changes

Representative selected crude prices from all sections of the country appear below:

East Texas	$1.25
Conroe	1.43
Tepetate, Louisiana	1.18
Smackover, Arkansas, heavy	.83
Illinois basin	1.37
Pecos County, Texas	.95
Lance Creek, Wyoming	1.12
Bradford, Pennsylvania	2.75

Gravity Schedules

Top prices include all gravities above grades designated, and low prices include all gravities below grades designated:

Gravity	Signal Hill Calif.	Okla. homa, Kansas	Gulf Coast, Texas	West Texas, Lea County, N. M.
18-18.9	$0.80	...	...	...
19-19.9	.84	...	$1.06	$0.70
20-20.9	.88	$0.85	1.08	.72
21-21.9	.92	.87	1.10	.74
22-22.9	.96	.89	1.12	.76
23-23.9	1.00	.91	1.14	.78
24-24.9	1.03	.93	1.16	.80
25-25.9	1.07	.95	1.18	.82
26-26.9	1.11	.97	1.20	.84
27-27.9	1.15	.99	1.22	.86
28-28.9	1.18	1.01	1.24	.88
29-29.9	1.20	1.03	1.26	.90
30-30.9	1.23	1.05	1.28	.92
31-31.9	....	1.07	1.30	.94
32-32.9	....	1.09	1.32	.96
33-33.9	....	1.11	1.34	.98
34-34.9	....	1.13	1.36	1.00
35-35.9	....	1.15	1.38	1.02
36-36.9	....	1.17	1.40	1.04
37-37.9	....	1.19	1.42	1.06
38-38.9	....	1.21	1.44	1.08
39-39.9	....	1.23	1.46	1.10
40 and above	...	1.25	1.48	1.12

MARKET RECORD OF ACTIVE OIL STOCKS . . .

Compiled by Carl H. Pforzheimer & Co., 25 Broad Street, New York City, Member New York Stock Exchange and New York Curb Exchange

New York Stock Exchange

1941 High	1941 Low	Week ended Sept. 20 High	Week ended Sept. 20 Low	Week ended Sept. 20 Close	Stocks—	Total shares outstanding	Par value	Latest dividend	Payable or last paid	Dividends paid in 1940	Com. sh. earn. 1940	Com. sh. earn. 1939	1940 High	1940 Low	1939 High	1939 Low
63½	44	59½	58¾	58¾	Amerada Corp.	788,675	N.P.	50cQ	7-31-41	$2.00	$2.25	$1.56	58½	38½	74½	50
24⅜	19½	24⅜	23¾	23¾	Atlantic Refining	2,663,999	$25	25cQ	9-15-41	1.00	2.11	1.66	27⅛	18¼	24⅝	18⅛
13⅛	7	13⅛	11½	11¾	Barber Asphalt Co.	390,223	$10	25c	5-21-40	.50	—.48	1.39	16⅝	8½	21	10¼
10½	7⅝	10⅛	9⅞	9⅞	Barnsdall Oil Co.	2,558,779	$5	15c	9-8-41	.60	.97	.76	13⅜	7⅛	19½	11⅛
6½	5¼	6¼	6	6	Consolidated Oil Corp.	13,751,726	N.P.	12½cQ	11-15-41	.72½	.28	.55	8⅛	5½	9⅞	6½
26¾	17⅜	24⅛	22⅞	23½	Continental Oil of Delaware	4,682,572	$5	25cQ	9-29-41	1.00	.92	1.35	25	16⅛	31½	19⅞
5	3½	4⅜	4⅛	4⅛	Houston Oil	1,098,618	$25		10-17-30		.30	.43	6⅞	3⅜	9⅜	4½
14⅜	9⅜	14¼	13½	13½	Lion Oil Refining	435,815	N.P.	25cQ	10-15-41	1.00	1.05	1.50	14⅜	9	18⅛	10
17⅞	13	17	16½	16¾	Mid-Continent Petroleum	1,857,912	$10	40c	6-21-41	.80	1.60	1.42	17⅜	11½	18	11⅛
14⅜	9⅜	14¼	13½	13½	Mission Corporation	1,378,645	$10	60c	10-16-41	.25	1.01	.87	11¾	7⅛	14⅞	8¾
7⅞	4¼	7	6½	6¾	National Supply	1,155,517	$10		12-22-37		—.49	—.87	9¾	4⅝	15½	5⅝
10	6¾	9⅛	8⅝	8¾	Ohio Oil Co.	6,563,377	N.P.	25c	6-14-41		1.02	—.10	8¾	5⅜	10½	6
9¾	5½	8½	8¼	8¼	Pacific Western Oil	1,000,000	N.P.	40c	12-19-39		—.21	.81	8⅞	5½	11⅞	7
10½	7¼	10⅛	10⅛	10⅛	Pan American Pet. Trans.	4,702,945	$5	25c	12-21-40	.25	1.20	1.10	10½	6¾	8¾	5
46	35¾	45⅝	44⅝	45	Phillips Petroleum	4,449,052	N.P.	50cQ	8-30-41	2.00	2.60	2.21	41¾	27⅞	46½	31¼
17	14¼	15¾	15½	15⅝	Plymouth Oil Co.	1,038,633	$5	30c	9-30-41	‡1.30	1.38	2.38	22¾	15	24	17⅛
10¾	7	9⅞	9¼	9⅝	Pure Oil Co.	3,982,031	N.P.	25c	12-20-40	.25	1.21	1.11	11½	6¾	11¾	6⅛
12⅛	7¼	10⅝	10⅜	10½	Richfield Oil Corp.	4,010,000	N.P.	50c	12-21-40	.50	.95	.65	9¼	5⅞	10¼	6⅝
17	12½	15½	15½	15½	Seaboard Oil of Delaware	1,244,383	N.P.	25cQ	9-15-41	1.00	1.05	1.40	20	11	24⅜	15½
15¾	10⅛	15	14¼	14⅝	Shell Union Oil	13,070,625	N.P.	40c	7-21-41	.75	1.05	.77	13⅛	7⅝	17¼	9⅞
33	18⅞	32⅞	32	32⅞	Skelly Oil	995,349	$15	50c	7-30-41	1.25	3.28	1.99	23¼	12¼	29½	15½
10¾	8¼	9⅞	9⅛	9¼	Socony-Vacuum	31,206,071	$15	25cSA	9-15-41	.50	1.17	1.10	12½	7⅛	15⅛	10¼
24⅝	17⅞	24⅝	23¼	23¼	Standard Oil of California	13,003,953	N.P.	35c†	9-15-41	1.00	1.73	1.38	26⅛	16¼	33⅝	24¼
34⅛	25½	33¼	32	32½	Standard Oil (Indiana)	15,272,020	$25	50c†	9-15-41	1.50	2.20	2.23	29	20¾	30	33¾
45⅝	33	43⅝	42½	42½	Standard Oil of New Jersey	27,280,998	$25	1.00†	6-16-41	1.75	4.54	3.26	46½	29⅞	53½	38
48½	34¼	41¾	41	41⅜	Standard Oil of Ohio	753,740	$25	75c†	9-15-41	2.00	7.44	6.64	41¾	26¼	32¾	17
60½	50	60	59	59	Sun Oil	2,434,863	N.P.	25cQ	9-15-41	*1.00	3.03	2.74	65⅞	46¾	66	45⅝
2⅜	1⅜	1⅞	1¾	1⅞	Superior Oil Corp.	1,388,979	$1	10c	12-28-40	.10	.11	.04	2½	1⅛	3⅝	1⅜
44¾	34½	41⅞	41⅛	41¼	Texas Corp.	10,876,139	$25	50cQ	10-1-41	2.00	2.90	3.02	47⅝	33	50¾	32½
4⅛	2⅞	3⅜	3¼	3⅜	Texas Gulf Producing Co.	888,147	N.P.	10c	6-14-41	.20	.63	.69	4¼	2½	5¾	3¼
7¾	5¼	7	6⅝	7	Texas Pacific Coal & Oil	888,236	$10	10c	9-2-41	.40	.54	1.00	8⅝	5⅜	11⅜	7
11¼	9⅜	10¾	10	10¼	Tide Water Associated	6,371,827	$10	25c†	9-2-41	.70	1.14	1.05	12	8¾	14¼	9½
16	12¾	16	15½	15½	Union Oil Co. of California	4,666,270	$25	25c	8-9-41	1.00	.99	1.25	17½	12	19¾	15⅛
31	25⅝	29½	28¼	28¼	Union Tank Car Co.	1,177,381	N.P.	50c	9-2-41	1.75	2.22	2.07	29⅞	22¾	24¼	20⅛
2⅜	1⅝	2⅛	2⅛	2⅛	Wilcox Oil & Gas	470,768	$5	10c	2-15-40		.35	.77	3⅝	1¾	4¼	2⅜

*Also 5 per cent in stock. †Includes extras. ‡Also 2 per cent in stock. —Deficit.

New York Curb Exchange

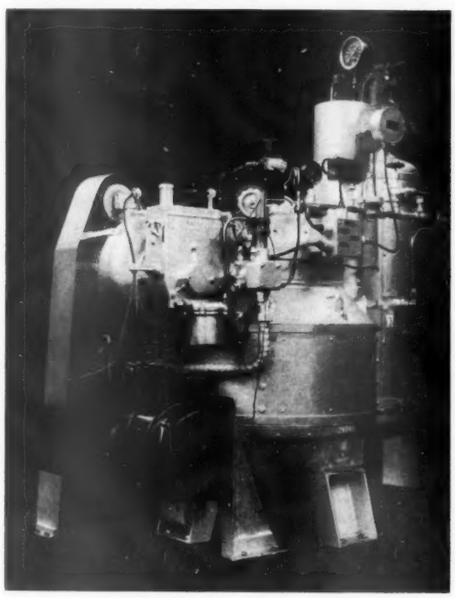
1941 High	1941 Low	Week ended Sept. 20 High	Week ended Sept. 20 Low	Week ended Sept. 20 Close	Stocks—	Total shares outstanding	Par value	Latest dividend	Payable or last paid	Dividends paid in 1940	Com. sh. earn. 1940	Com. sh. earn. 1939	1940 High	1940 Low	1939 High	1939 Low
¾	¼	7/16	⅜	7/16	American Maracaibo Co.	1,778,415	$1	....	....	....	—$0.04	—$0.05	1/16	¼	1¼	¼
8¼	5⅛	8⅛	7½	7½	American Republics Corp.	1,308,049	$10	10c	7-10-41	....	.78	.14	10¾	4½	11¾	5½
1⅞	1	1⅞	1⅝	1⅞	Bridgeport Machine Co.	263,700	N.P.	$1.25	12-30-37		—.88	—.95	3¼	1⅜	7¼	2½
46	36½	45¼	45¼	45¼	Buckeye Pipe Line Co.	200,000	$50	$1	9-15-41	$4.00	5.09	3.13	43	28	34¾	26½
110¼	87	..	..	..	Chesebrough Mfg. Co.	120,000	$25	$1.50Q†	9-29-41	6.00	6.33	7.87	117	95	130	108⅝
6⅝	3⅝	4⅝	4⅜	4⅜	Cities Service (new)	3,703,978	$10		6-1-32		1.72	.68	6¾	4	9¼	4¼
2	⅝	2	1⅝	2	Cosden Petroleum	465,804	$1	....	....	....	—.34	.15	2⅛	⅝	2¼	½
19¾	12½	18⅞	18	18¼	Creole Petroleum	6,974,356	$5	50cSA†	6-16-41	1.00	.98	1.38	24¼	11⅝	28	16¾
9	3¾	7¾	7¾	7¾	Darby Petroleum	351,390	$5	25c	7-15-41	....	1.12	.03	4⅜	2⅞	7⅛	3⅝
2¼	1	1½	1⅝	1⅜	Derby Oil & Refining	263,162	N.P.	....			.12	—.37	2	¾	2⅝	1½
28¾	21¼	..	..	..	Eureka Pipe Line	50,000	$50	50c	8-1-41	2.25	—.49	.63	31	20¼	23	15⅛
39	29	36¾	36	36½	Gulf Oil Corp.	9,076,202	$25	25cQ	10-1-41	1.25	2.44	1.69	39⅞	25⅛	45⅛	29¼
64⅝	52⅜	61	60¼	60¼	Humble Oil & Refining	8,987,840	N.P.	62½c	10-1-41	2.00	3.13	3.33	68	47⅛	71	42½
7⅜	5¾	7⅜	7⅛	7⅛	Imperial Oil of Canada	26,965,078	N.P.	25c	6-2-41	.62½	.65	.71	12⅜	5⅜	17	11⅜
5	2¾	4	4	4	Indiana Pipe Line	300,000	$7.50	20c	11-15-40	*2.80	.09	.33	7¾	3	7¼	5½
11⅞	8⅞	11⅞	10½	10¾	International Petroleum	14,324,088	N.P.	50c	6-2-41	1.25	.94	1.19	10¾	8¼	27½	17
2⅝	1¾	2⅛	2⅛	2⅛	Kirby Petroleum Co.	500,000	$1	10c	3-15-41		.16	.06	2¾	1⅝	3¾	2⅛
10⅛	8½	8⅞	8⅝	8⅝	Lone Star Gas	5,518,347	N.P.	20c	8-22-41	.70	1.17	.98	10¾	7⅝	10½	7⅛
5⅝	4⅛	5	4¾	4⅞	Louisiana Land & Exp.	2,966,762	$1	10c	9-15-41	.35	.29	.22	6¼	3¾	7¾	4
10	9½	..	..	..	Margay Oil Corp.	149,943	N.P.	25cQ	10-10-41	1.00	1.02	1.52	17	9¼	17	14½
4⅛	2½	4	4	4	Middle States Petroleum "A"	291,970	$1	37c	1-31-41	.63	.31	.37	4⅛	2¾	5¾	2¾
8	7	7¾	7⅝	7¾	Midwest Oil Co.	998,474	$10	45c	6-16-41	.90	.88	.99	8½	5½	8¾	6⅝
6⅛	5⅛	5⅝	5⅝	5⅝	Mountain Producers	1,593,584	$10	30cSA	6-16-41	.60	.58	.70	6¼	4⅞	6	4⅞
12⅜	10½	11⅝	11¼	11½	National Fuel Gas	3,810,183	N.P.	25cQ	7-15-41	1.00	1.12	.95	13½	10	14	11¼
12⅞	10¼	11⅝	11⅜	11⅜	National Transit	509,000	$12.50	50c	6-16-41	1.00	1.08	.91	12½	8¾	9½	7¼
2¼	1	..	..	..	New Mexico and Arizona	1,000,000	$1	1c	12-1-37		.03	.02	1¼	¾	1¾	1
8¼	6⅝	..	..	..	New York Transit	100,000	$5	30c	10-15-41	.60	.91	.88	7¾	5¼	6	4
9¾	7¾	8¾	8¾	8¾	Northern Pipe Line	120,000	$10	50c	6-2-41	.80	.70	.31	9⅞	6	7	4½
4½	2⅝	4½	4⅛	4½	Pantepec Oil	2,856,872	$1				.02	....	5½	2½	7⅝	4
3¾	1	3¾	2⅞	3⅝	Root Petroleum Co.	336,045	$1	25c	2-1-37	....	.04	.70	3¼	1	5	1¼
2⅝	2⅛	2⅝	2½	2½	Ryan Consolidated	298,931	N.P.	10c	12-28-40	..	.43	.16	3	1¼	3	1⅞
8	6½	7¼	7	7¼	Southern Pipe Line	100,000	$10	25c	9-2-41	.50	.81	.25	11¾	4¾	4⅞	3½
43½	36⅛	39¼	38	38½	South Penn Oil	1,000,000	$25	37½c	6-27-41	2.50	2.10	2.84	44	28	40½	26¾
30½	23	..	..	..	Southwest Penna. Pipe Lines	35,000	$50	50c	10-1-41	6.50	3.22	2.06	35	21	23	18
20⅝	17⅞	19½	19¼	19⅜	Standard Oil of Kentucky	2,604,790	$10	25c	9-15-41	1.30	1.47	1.53	20⅞	16½	20⅛	17¼
2⅛	1⅜	2⅛	2	2	Sunray Oil	1,975,876	$1	5c	12-20-40	.10	.23	.25	2	1⅜	2⅜	1⅜
3¼	2⅝	3	2⅞	3	Texon Oil & Land	936,024	$2	10c	9-26-41	.40	.45	.49	3⅛	2	4	2⅝
4⅝	2¼	4⅜	4¼	4⅛	Transwestern Oil Co.	750,000	$10	...	...	....	—.59	—1.42	3⅜	2	6	2½
1/16	½	¾	7/16	1/16	United Gas Corp.	7,818,959	$1	...	.....	....	—.49	—.55	2⅛	¾	3⅜	1½

*Includes $2.50 capital distribution. †Includes extras. —Deficit.

EQUIPMENT PROGRESS...

High-Pressure Steam Plants For Heating Pipe-Line Stations

The Bettis steamer is a radically advanced form of heat generation recently introduced to the oil industry. The unit is an adaptation of the Vapor-Clarkson



Bettis steamer installation

steam generator used extensively by the railroads for heating diesel passenger trains and by the U. S. Navy for heating diesel craft. It is basically a water-tube boiler designed into a compact steam package with an operating efficiency of 80 per cent.

Either oil or gas-fired, full steam volume is obtained within 2 minutes after starting. This enables heating a building within several minutes after firing up rather than the usual hour or more with the conventional type heating boilers. The units are very compact, an 800,000 B.t.u. occupying space 40 in. square and 50 in. high and weighing approximately 1,600 lb. complete with burner and all controls, thus allowing convenient installation. This also can serve to eliminate costly steam piping from a central plant, as the steamers can be placed at central points throughout a large building and turned on as heat is required. The steamers meet all code requirements for such operation within a building. The combustion chamber is totally enclosed and air intake is above the danger zone. Forced-draft firing and force-feed circulation is used, thus eliminating the need for an expensive stack and return condensate pump. Operation is automatically maintained at full efficiency down to 20 per cent full-load demand either with vapor units below 15-lb. pressure or steam units up to 300-lb. pressure. Steamars at present are available in sizes from 300,000 B.t.u. to 2,500,000 B.t.u. output. Distributed by Bettis Sales Co., Houston, Tex.

Improved Unaflo Oil Well Cement Is Announced

Greater insurance against loss and a higher factor of safety in oil-well cementing is now assured with improved Unaflo oil-well cement, according to recent announcement by the Universal Atlas Cement Co., Waco, Tex. In announcing the improved product, the manufacturer states, "Just as several years of intensive research led to the development of the original Unaflo, the first retarded oil-well cement, so has continued research in the field and in the laboratory resulted in an even better, safer, more reliable product for oil-well cementing."

The announcement continues, "All the original characteristics of Unaflo have been retained in the improved product. These include retarded set, sustained fluidity under high temperatures and pressures, easy pumpability over an extended period of time, heavy slurry, and formation of a dense, impermeable seal."

In addition, says the announcement, "Field performance and laboratory tests show that the composition of improved Unaflo is more uniform; the reaction to various types of mixing water is more uniform; retardation of setting time is more uniform; and the rate of stiffening is more uniform."

The Universal Atlas Cement Co. states that these improvements, added to the original characteristics, mean greater protection for the costly investment already made in well, tools, and equipment.

Waukesha Motor Opens Los Angeles Branch

Los Angeles branch of the Waukesha Motor Co., Waukesha, Wis., marked the completion of the branch's new headquarters here on September 12, with an open house and Dutch luncheon. Hosts were Herbert Wirshing, district manager and head of the Waukesha staff in Los Angeles; Harley Winn, in charge of field service; seven others on the branch staff; Wendell Jones, Jack Graves, and Pete Irwin of Petroleum Equipment Co.; Roy Wright, W. C. Durant, and A. Miller of Frazier-Wright Co.

This new headquarters for Waukesha motors in Los Angeles, with ample room for expansion, has been constructed to provide the most complete and expeditious service to Waukesha customers in the Los Angeles district. Manager Wirshing has issued an invitation to members of the petroleum and other industries unable to attend the open house to visit the new branch at 4927 Pacific Boulevard when they are in Los Angeles.

New Quarters in Los Angeles for Valve and Meter Companies

Reflecting the fifth Los Angeles expansion in recent years, Merco Nordstrom Valve Co. and Pittsburgh Equitable Meter Co. have moved to new quarters. Greatly expanded facilities are represented in the new location at 3136 East Eleventh Street, according to H. Boezinger, vice president in charge of West Coast sales.

The companies' new location occupies approximately 25,000 sq. ft. of space. A modern, streamlined building has been erected with spur track for shipments from the factories direct to the warehouse.

An air-conditioned, temperature-controlled proving department has been included to scientifically and accurately check gas meters. Modern facilities are installed for repairing valves, water meters, orifice meters, and oil and gasoline meters. Complete facilities have been established for giving factory service. An intercommunicating system has been installed for direct access to the firms' various factories and warehouses throughout the country. Larger stocks are to be carried to permit prompt delivery of emergency orders.

New High-Temperature Packing Offered by Greene, Tweed

A new asbestos packing for elevated temperatures has been added to the well-known "Palmetto" line of packing by Greene, Tweed & Co., New York City.

This packing, known as Palmetto Cab Cock Packing, is braided from long-fiber Canadian asbestos yarn. Each strand is individually coated with dry graphite to retard fusion of asbestos and to provide an anti-friction wearing surface. The packing contains no liquid lubricant which might be boiled away.

Palmetto Cab Cock Packing is intended for pumps and valves handling high-temperature steam, oils, and gases, and also for expansion joints, furnace-door grooves, locomotive-cab cocks, and many applications in petroleum refineries.

EYE PROTECTORS INTRODUCED BY McDONALD

I-Gards are a new product just introduced by B. F. McDonald Co., well-known western manufacturer and distributor of safety appliances. Growing out of the need for a device for industrial eye protection which would allow the wearer an unrestricted wide angle of vision and at the same time afford complete protection, I-Gards are an important development in the plastics field.

Light, comfortable, exceptionally strong, inexpensive, these new eye protectors are produced without individual grinding of lenses—an important factor, since the optical industry is already badly overburdened by defense requirements.

I-Gards are injection-molded of clear plastic under rigid controls which assure optical accuracy and maximum strength. In addition to clear lenses, they are also provided in a green Vernalite tint, a color which satisfactorily filters out glare and harmful light rays. The design employed eliminates pressure on the bridge of the nose and on the ears, and edequate ventilation further improves the nonfogging characteristic of the material used in I-Gards. B. F. McDonald offices are at Los Angeles, Calif.

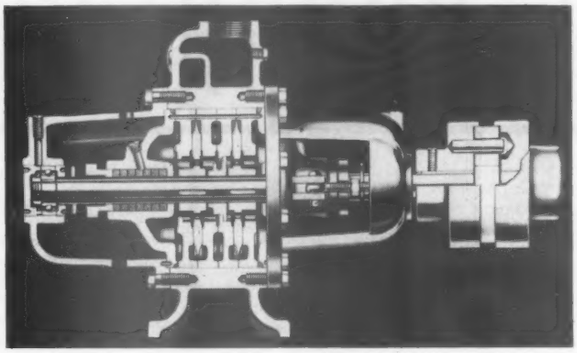
NEW SERIES OF WESTCO TURBINE PUMPS ANNOUNCED

Micro-Westco, Inc., has just announced a new series of single and two-stage Westco turbine pumps incorporating an improved type of patented renewable liner. This exclusive feature minimizes shutdown losses and production delays for the liners, forming the liquid channel within the unit, can be easily renewed (along with the impeller), providing complete "standby" service at about one-fourth the usual cost of a duplicate unit.

Westco's separate liner design also guards against premature obsolesence by permitting the pump capacity and range to be altered, within reasonable limits, in the field. This alteration is accomplished, without disturbing the suction or discharge lines, simply by replacing the liners with a different set and slipping a new, matching impeller into position.

Other constructional features include (1) double ball-bearing construction for maximum operating ease and longer life; (2) a top discharge preventing vapor lock; (3) a stainless-steel shaft and "free floating" impeller to eliminate seizing caused by extreme temperature variations; (4) extra deep stuffing boxes that reduce the need for frequent repacking, and (5) balanced bearing arms which minimize shaft misalignment.

Designed especially for high-head low-capacity work, these Westco pumps are built not only for conventional service, but, in addition, are engineered to meet the many industrial applications requiring high-pressure performance. For example, single and two-stage pumps, with 5-in. impellers, will develop pressures up to 150 lb. and 300 lb. per sq. in., respectively at 1,750 r.p.m. This wide-range operation makes these advanced pumps excellently suited for brine circulation, steam service, liquid transfer, and other industry uses.



"Westco" two-stage turbine-type pump

Detailed, profusely illustrated literature covering this new selection of pumps (Series 2100) is now available from Micro-Westco, Inc., Bettendorf, Iowa.

Southwest Warehouse and District Office Opened by Dresser

Dresser Manufacturing Co. has opened a new warehouse at Houston, Tex., to make available to the Southwest ready-made joints overnight for speedy laying of pipe lines. Since the national emergency calls for speed and more speed in new drilling and in construction of oil lines, Dresser's Houston warehouse will save vital time by making it possible for users to draw on full stocks of Dresser products for immediate laying of lines.

The new Southwest warehouse is located at 1121 Rothwell Street, and is managed by David H. Geiser, an experienced Dresser man from the Southwest. C. T. Davis, district manager, gas and water division, and H. R. Shidel, district manager, oil-field division, will have their headquarters at the new district office now located at the warehouse address.

Rotary Hose Repair Service Announced by Barnard

H. Barnard, president of Goodall Rubber Co. of Texas, known in the oil fields as "Barney, of the Barney Coupling," has announced a repair service on rotary hose. For over a year "Barney" has been developing a factory maintenance department at his Houston plant. He now reports that Goodall rotary hose accidentally broken behind the couplings or in the middle can be repaired, tested at 2,000-lb. pressure, and put back on the rig in approximately 4 days after it is received at the Houston plant.

He has numerous case histories of lengths, repaired since March 1940, still in service. To date not a single failure has been reported on these repair jobs. This repair service can be applied only to Goodall's "Long Life" rotary hose.

In these times of conservation in the consumption of all things, Mr. Barnard accompanies the announcement of the new Goodall maintenance service with these suggestions for proper handling and care of rotary hose:

(1) Always remove a new length of hose from its crate by hand to prevent kinking. Never use a cat-line. (2) Lay hose out full length before attaching cat-line. (3) In moving hose from one location to another do not handle with a winch line. The hose should be coiled on a skid-mounted rack around a large diameter and the ends securely held to eliminate any danger of the hose kinking. (4) Be sure your swivel gooseneck allows the hose to hang vertically to the derrick floor.

Jack Anderson Engine Has New Location at Kilgore

Jack Anderson Engine Co. announces the opening of new location at Kilgore, Tex. This is a consolidation of stores formerly located at Greggton and Kilgore, Tex. In his new location he will continue to handle a complete line of International trucks and oil-field engines, also Wilson winches and rigs, and Texrope line of V-belts and sheaves.

Halliburton Offers New Gravel-Packing Service to Oil Industry

Texaco Development Corp. announced the closing of a license agreement with Halliburton Oil Well Cementing Co. whereby Halliburton will be prepared to conduct gravel-packing operations for the oil industry in accordance with the latest procedure developed by the Texas Co.

Gravel packing has been successfully employed in California, Texas, and Louisiana for the prevention of sand trouble in oil wells, and Texaco Development Corp. owns various patents and inventions covering this procedure including those of Leslie A. Layne, of Houston, Tex., and Prof. Lester C. Uren, of the University of California, Berkeley, Calif.

This arrangement will be advantageous to the oil industry since the Halliburton organization has facilities all over the United States. With the expectation that gravel packing will be largely used in the future, Texaco has substantially reduced the royalty charges.

Ryerson Installs New Annealing Furnace in Steel Service Plant

A modern, 24-ft. annealing furnace has recently been installed by Joseph T. Ryerson & Son, Inc., for annealing their stock-steel products after they have been flame cut. Usually it is not necessary to anneal after flame cutting. However, with some types of steel, occasionally in the case of plates, and in some situations this is desirable.

Though 24 ft. long, the furnace can be divided into three sections. Each of the three furnaces may be used as a separate unit, making possible an exceptionally prompt annealing service in keeping with the 99-year-old Ryerson "immediate steel-service" tradition. The furnace, especially designed by Ryerson engineers, has a structural-steel framework and is lined with a special heat-resisting material. It is crane-served and so situated that steel to be annealed can be quickly transported to the furnace from any part of the huge Ryerson plant. The furnace is gas fired.

The finger-tip-control equipment plays an important part in this new service due to the importance of temperature control and timing in the annealing process.

TRADE LITERATURE

BROWN INSTRUMENT CO., Wayne and Roberts Avenues, Philadelphia, Pa.—Catalog 8903, describing its air-operated controllers for temperature, pressure, flow, liquid level and humidity. The 35-page booklet gives important facts and descriptions of the various types of air-operated controllers, and tells how, when, why and where the controllers should be used in processing operations to obtain maximum efficiency. Schematic diagrams show the principle of operation; also photographs of instruments and installations.

MORAINE PRODUCTS DIVISION, GENERAL MOTORS CORP., Dayton, Ohio.—Form 101-12M, describing a porous metal product known as "Porex," which is described as a new technology in control of filtration and flow of liquids and gases. "Porex" has two principal functions which are to remove foreign materials from fluid, such as oil, and to alter the characteristics of gases by diffusion, reducing pressures and controlling flow rates.

BABCOCK & WILCOX TUBE CO., Beaver Falls, Pa.—Bulletin TB-319, a new 24-page catalog on B&W seamless-steel boiler tubes, alloy tubes, and pipe for refinery and process industries, stainless-steel tubes and pipe, and seamless-steel mechanical tubing. This booklet describes, with photographs and schematic-line diagrams, the seamless-tube manufacturing process; refinery and process industries applications of B&W seamless Croloy and other alloy tubes and pipe, and descriptions and applications of B&W stainless steel tubes and pipe, and mechanical tubing.

DRESSER MANUFACTURING CO., Bradford, Pa.—Form 4012, a 36-page oil-field catalog covering pipe couplings and fittings, repair clamps and sleeves. Helpful solutions are offered to troublesome problems of pipe-joining and repairs in the oil industry. An index on the back cover of the catalog is designed to make information easy to find.

HOME OF ALLEN WATER CANS

Plant of the Osage Sheet Metal Works, Fairfax, Okla., where for the last 13 years the Allen Ice Water Can and Allen Ice Water Coolers have been manufactured. I. E. Allen, owner and manager, has been producing drinking-water cans since 1928, and their distribution has been world-wide. Present distributors are Townley Hardware Co., of Kansas City; Gates Hardware Co., of Tulsa; and W. H. Richardson & Co., of Austin, Tex.

Mud-Logging Device to Be Distributed by Martin-Decker

Martin-Decker Corp., Long Beach, Calif., has recently acquired the exclusive rights for an instrument which for several years has been undergoing field and laboratory tests and which is designed to record automatically the weight and viscosity of drilling fluid.

This instrument is to be known as the Martin-Decker mud logger. It was invented by John Hurndall, a widely known geologist, and is being manufactured by the Petroleum Instrument Co., Los Angeles.

AMONG EQUIPMENT MEN...

Lane-Wells Appoints Sales Managers for Gulf Coast and Mid-Continent

James D. Hughes and J. C. Barcklow have been appointed sales managers for the Gulf Coast and Mid-Continent divisions of Lane-Wells Co., according to an

JAMES D. HUGHES

J. C. BARCKLOW

announcement made by M. E. Montrose, Lane-Wells vice president and general sales manager. These men will direct the company's sales engineering work in those divisions.

Mr. Hughes, whose headquarters is at Houston, attended Texas A. & M. and Oklahoma University before joining the engineering department of the Humble Oil & Refining Co. in 1924. From there he went to Venezuela for 4 years with the Lago Petroleum Co., working on drilling and production practices and production research. For 2 years after returning to the United States he did special work on production analysis and lift-cost studies for Southern Crude Oil Purchasing Co., which was later absorbed by Stanolind Oil & Gas Co.

In 1934 Mr. Hughes joined Eastman Oil Well Survey Co. of Texas. He resigned as vice president of that company and organized Oil Well Engineering Co. to manufacture and distribute specialized drilling equipment. He disposed of his interests in this company and joined the Lane-Wells organization in Houston in 1939.

Mr. Barcklow will make his headquarters the Mid-Continent division offices at Oklahoma City, Okla. He is a graduate of Penn State College in mining-geology and first worked for the Midwest Refining Co. in Wyoming. From there he joined the geological department of the Carter Oil Co. and later went with the Skelly Oil Co. as district geologist at Ardmore Okla. Later he joined the Deep Rock Oil Corp. and supervised that company's drilling operations as to stratigraphy, casing points, interpretation of electrical logs, perforation, and drilling-in procedure. Mr. Barcklow joined Lane-Wells in Oklahoma in 1940.

Floyd Swindell to Represent Vapor Recovery Systems in Tulsa

The Vapor Recovery Systems Co., Compton, Calif., has appointed Floyd L. Swindell as Mid-Continent sales representative with headquarters at Tulsa, according to Frank V. Long, president.

FLOYD SWINDELL

Mr. Swindell is a graduate of the University of Oklahoma, with post-graduate work at George Washington University. His first employment was with the U. S. Bureau of Mines at Bartlesville, Okla., where he was assistant petroleum engineer studying oil-field problems in connection with exploration, development, and production of oil and gas.

For 4 years he was employed by the U. S. Treasury Department in the income tax unit as valuation engineer, studying oil and gas reserves, determination of depreciation rates, obsolescence of oil-field equipment, and valuation of stock.

From 1930 to 1936 he was employed as an oil writer, making close studies of exploration and development.

Since 1936, Mr. Swindell has been engaged largely as a consulting engineer and geologist, specializing on field geological work and income tax valuation. He was employed by Texas Steel Co. and Texasteel Manufacturing Co. as sales engineer for oil-well equipment in Arkansas, Texas, Oklahoma, and Kansas. He was also connected with the Buda Engine Sales & Service, as sales engineer selling oil-field power.

With his technical background and broad practical experience during the past 17 years, Mr. Swindell enters the service of the Vapor Recovery Systems Co. with an intimate knowledge of all conditions in the Mid-Continent oil field and a wide personal acquaintance with executives and operators.

Gordon LeFebvre Joins Cooper-Bessemer as Vice President

The Cooper-Bessemer Corp. has announced that at a recent meeting of its board of directors, Gordon LeFebvre, former American Locomotive Co. executive, was elected its vice president and general manager. In joining with one of this country's oldest and largest heavy-machinery builders, Mr. LeFebvre fills a management vacancy created in May of this year by the untimely death of Charles B. Jahnke. B. B. Williams, who was recalled at that time to again take up active duties as head of the corporation, will retain the positions of president and chairman of the board of directors. At the same meeting, Mr. LeFebvre and L. F. Williams were elected directors of the corporation.

GORDON LeFEBVRE

Mr. LeFebvre brings to Cooper-Bessemer an extremely valuable experience in engine building. He is a member of the Society of Naval Architects and Marine Engineers. His broad knowledge of plant management and production is expected to serve him well in his new connection, especially in view of the corporation's greatly increased activities at both its Mount Vernon, Ohio, and Grove City, Pa., plants. He took up his new duties on September 15, with headquarters at Mount Vernon.

C. P. Collins Named General Manager of Eastman

The Eastman Oil Well Survey Co. announces the following appointments:

C. P. Collins, formerly vice president and assistant general manager, has been appointed vice president and general manager with offices in Dallas, Tex.

Albert G. Pabst, formerly division manager of the Texas Gulf Coast division, has been appointed vice president in charge of sales and public relations with offices at Dallas.

H. G. Livingston, formerly division manager of the Louisiana division, has been appointed division manager of the Texas Gulf Coast division and will be located in Houston, Tex.

William G. James has been appointed division manager of the Louisiana division and will be located in Lafayette, La.

BUSINESS NOTES

The Darling Valve & Manufacturing Co., Williamsport, Pa., has recently appointed Gordon T. Lepley as the district representative in the State of Texas to succeed F. C. Cavenagh who recently resigned after 20 years' association with the company.

Two Appointments to Sales Posts Made by Oil Well Supply

Two personnel changes have been announced by the Oil Well Supply Co.

William Heldmar has been appointed assistant divi-

E. E. (NED) ROBBINS

WILLIAM HELDMAR

sion sales manager of the company's Midwest division. He will headquarter in Tulsa and supervise all sales activities in Oklahoma and Kansas. Mr. Heldmar has a wide acquaintanceship throughout the Mid-Continent oil fields, having been in the supply business for the past 20 years.

E. E. (Ned) Robbins, formerly manager of Tulsa sales, has been appointed assistant to the division sales manager of "Oilwell's" Midwest division. He will continue his sales activities in Tulsa, where he has lived for many years, and in addition will cover other territory in Oklahoma and Kansas.

Los Angeles Nomads Will Act As Hosts at A.P.I. Meeting

Definite plans are being completed by the Los Angeles chapter of Nomads to act as hosts to Nomads and foreign oil men at the American Petroleum Institute convention to be held in San Francisco, November 3-7.

Bart Gillespie is chairman of the general committee handling all details, assisted by Clarence Hill and Charlie Toll. Additions to this committee made during the past few days include Elmer Decker, Fred Ripley, Ted Sutter, Bill Bettis, Ernie Fowkes, and Hi Cassidy.

A plea for adequate supplies for the small manufacturer was made by W. G. Green, executive of the Seismograph Service Corp. and affiliated companies, at the first fall dinner of the Tulsa chapter of Nomads held September 22 at the Hotel Tulsa. Mr. Green explained the difficulties encountered by the smaller manufacturers in maintaining output to supply both defense and civilian needs. The principal problem, he explained, is the matter of obtaining tools and materials to operate plants and services.

Rodolfo Martin, Jr., engineer and geologist with Yacimientos Petroliferos Fiscales of Buenos Aires, Argentina, was a guest at the dinner. Plans to attend the annual A.P.I. meeting at San Francisco, November 3-7, were discussed.

Portable Rig Co. Appoints W. S. Lightbourn Sales Manager

Effective September 1, W. S. Lightbourn has been appointed sales manager by Portable Rig Co., Houston, Tex., to fill the vacancy created by L. D. Cain who resigned to enter business for himself.

W. S. LIGHTBOURN

Mr. Lightbourn, who graduated from Georgia Tech in 1928, began his oil-industry career the following year as an engineer for Vacuum Oil Co. in Houston. In 1930 he joined Oil Well Supply Co. to do sales and service work in East and Southwest Texas, and in 1934 was employed by Portable Rig Co. as manager of its Dallas branch office. In 1936 he was promoted to division manager of the East and West Texas division. As sales manager, Mr. Lightbourn will make his headquarters in Houston.

LIQUIDATING

RODESSA REFINERY SHREVEPORT, LA.

Every Item AVAILABLE FOR IMMEDIATE DELIVERY

SINGLE PIECES OR COMPLETE UNITS INCLUDING CRACKING—POLLY—BUTANE—NAPHTHA PLANTS

RARE OPPORTUNITY

For Buyers of Equipment

This is the outstanding buying opportunity of the year. The entire refinery of the Rodessa Oil & Refining Corporation at Cedar Grove, Louisiana (near Shreveport), is offered for quick sale. The refining plant (all modern fire-proof buildings and structures) include 75 acres of land, with utilities system for water, electric power and sewers and switching facilities.

A Modern Plant, Ready for Operation

Do not confuse this practical refinery with the average abandoned or obsolete plants occasionally on the market. In 1938, approximately $1,500,000.00 was spent for installation of brand new units. Plant is ready for operation with all high pressure furnaces, towers, hot oil charge pumps, the most modern automatic control instruments and all good serviceable equipment.

This refinery was closed down August 1940, for reasons that have nothing to do with the serviceability of the plant and its equipment.

Capacities of Plant

Crude oil, 10,000 barrels daily—cracking, 6,000 barrels. The refinery is equipped to produce gasoline, kerosene, distillate, gas oil, fuel oil.

Some of the More Important Units Are:

Complete cracking plant — butane plant — Naphtha unit — Topping — Stabilization — Absorption — Ethyl blending units — experimental unit — approximately 650,000 barrels of steel storage tanks — butane and casinghead storage tanks — machine shops — bulk plant — warehouse stock inventories — fire-fighting equipment — power plant — steel valves — fittings and specialties.

Detailed inventory is now being completed. Our representative is on the ground daily and all units can be inspected any time.

Why wait weeks and months for the delivery of new equipment? Look this refinery over and fill your needs immediately! Resident engineer at site.

BROWN-STRAUSS CORPORATION

at (Cedar Grove)
Shreveport, La.
Phone 7-7334
Leonard Strauss
Resident Engineer

Main office
KANSAS CITY, MO.
Long Dist. Phone 169
Harry B. Strauss
Manager

CLASSIFIED ADVERTISING

For Sale—Equipment

FOR SALE—1 PA 100 International Motor almost new, 1 12-in. 6-ply 60 ft. endless belt. Box 278, Salem, Ill.

FOR SALE: Big pipe for pipe line, light weight, 5 miles, subject to prior sale Box 574, Tulsa, Okla.

FOR SALE at Oklahoma City: A quantity of repaired and unrepaired duplex piston steam pumps, 6 x 4 x 6 and 10 x 3½ or 4½ x 10. Cities Service Oil Co., Bartlesville, Okla.

DERRICKS—66's and 74's—Heavy duty tubular derricks complete with crown blocks. All in strictly A-1 condition. Al Brown Supply Co., Box 841, Kilgore, Tex.

FOR SALE: 4 Gasoline Vapor Drums 46" x 49' 6", thickness of Drums 1¾", complete with Hair Pins. These Drums in very good condition. American Pipe and Supply Company, Casper, Wyoming.

ALL STEEL, 81 Keystone with all drilling in and tubing and rod tools, light plant and doghouse. Also, Fort Worth Super J Spudder with all big hole tools 15½" to 5", 165 H.P. Climax motor, 10" shear poles, light plant and doghouse. Everything A-1. Craig Drilling Co., Box 697, Grayville, Ill.

FOR SALE: One mile 5¼ O.D. line, 38' lengths, 10½ lb. extra good number 2 pipe, roller cutter bevel, ready to lay, price 30c. Also one mile 3" standard line, number one 38' lengths, roller cutter bevel, average one weld to joint, price 25c. M. J. Regan, Phones 448 and 599, Coffeyville, Kans.

FOR SALE—300 ton excellent standard drilling tools purchased from Broadwater Drilling Co., also 125 H.P. Broderick Boiler. Harvey Creek, 3105 N. Brdwy., Wichita, Kan.

REFINERY for sale, priced right for cash. Large capacity, excellent equipment. Write or wire Box 1084, Overton, Texas.

NO. 23 STAR Drilling Machine, no boiler or tools; price $300.00 No. 25 Armstrong Special Drilling Machine with tools; price $550.00. Located near this city. Joel Bailey, 309 Grein Bldg., Evansville, Ind.

CATERPILLAR 75 diesel with Cardwell 10,000-foot servicing winch in A-1 shape, tracks like new, motor rebuilt. Price $6,500; cost new 12,000. Box A-671, The Oil and Gas Journal, Tulsa, Oklahoma.

FOR SALE: WILSON Double Drum Well Servicing Unit with spudder attachment. Melton Supply Co., Seminole, Okla.

FOR SALE OR RENT: Gas engine powered Rotary Drilling Rig complete. Suitable for 4,500' drilling. Box 1360, Phone 312, Seminole, Okla.

FOR SALE: Type H-15000 Whelan-Lucey Slush Pump $350.00. Located East Texas. Lucey Products Corp., Tulsa, Okla

TRACTORS

Caterpillars, crawler type, size "35" $395; size "65" with nigger head winch $795.00. Austin Western hydraulic grader 10' blade $650. O. C. Evans, Mt. Sterling, Kentucky.

For Sale—Equipment

700—3" 600-2000# Forged Steel Wing Unions—List $7.25, priced to move $4.25 each. P.O. Box 1625, Fort Worth, Tex.

FOR SALE: 5 x 12 Oil Well Power Slush Pump with 100 H.P. Waukesha Motor. Melton Supply Co., Seminole, Okla.

FOR SALE: 6—40 Gallon Foam Outdoor Type Mounted Fire Extinguishers. Cities Service Oil Co., Bartlesville, Okla.

FOR SALE at Oklahoma City: Large quantity 65, 70, 75 and 85 hp. oil field boilers, repaired and unrepaired. Cities Service Oil Co., Bartlesville, Okla.

LARGE GASOLINE PLANT being dismantled. Bessemer equipment, gas engines & other machinery, tanks, towers, regulators, meters, recording gauges, valves, tools, pipe fittings, etc. GILBERT PIPE & SUPPLY, Electra, Tex.

FOR SALE at Seminole—One Allis-Chalmers Model "U-E" Tractor Pulling Unit. Cities Service Oil Co., Bartlesville, Okla.

FOR SALE: 6 x 16 Wilson-Snyder Power Slush Pump. Melton Supply Co., Seminole, Okla.

FOR SALE: Two Fairbanks-Morse Power Pumps, size 5½ x 12, Serial #99548 and #99549. Pumps in good shape and ready to go. The American Pipe & Supply Co., Casper, Wyoming.

FOR SALE Cheap, At Oklahoma City Garage: 9 new 40 x 8, 12-ply Acme tires in original wrappers. Patridge, Cities Service Oil Company, Bartlesville, Okla.

FOR SALE: 28 Star drilling machine complete. Oversize shaft: electric attachment; perfect condition; $500.00. R. Landman, Box 208, El Dorado, Kansas.

FOR SALE: 125 H.P. 200 W.P. Broderick Boiler, Code Condition, $975. Melton Supply Co., Seminole, Okla.

FOR SALE: Gas Meters. Orifice and Positive. George R. Milner, Box 457, Okmulgee, Oklahoma.

75 TONS 5" REFINERY TUBES

In lengths of 16'0" to 30'0"; reasonably straight. Will entertain your best proposition.

EASTERN PIPE SUPPLY CO.
1424 North 9th Street
Philadelphia, Pa.

1—GOULDS Duplex Pipe Line Pump. Outside Packed Four Plungers, Size 4½" x 12", Herringbone drive, 6" Suction, 4" Discharge, Weight 15,700#., Serial #49226. American Pipe & Supply Co., Casper, Wyoming.

FOR SALE—One 70 H.P. Bessemer Engine, Belt Driven with Compressor. Building included. Box A-663, The Oil and Gas Journal, Tulsa, Okla.

AUCTION SALE

REFINERY—LEADING PLANT

Pursuant to order of sale made by the Referee in Bankruptcy in this cause, I, the undersigned Trustee of the estate of Lake Refining Company, Bankrupt, will offer for sale at Public Auction at 11:00 A.M. on Tuesday, September 30, 1941, the crude oil refinery belonging to this estate, consisting of skimming plant and leading plant, railroad spur, loading racks, still, bubble tower, flash tower, cooling tower, pumps, motors, 16 storage tanks (500 barrels to 5,000 barrels), and large lot of miscellaneous equipment. The property will be offered in bulk and also in detail lots. The sale will be held at the refinery premises, 2 miles southwest of Salem, Illinois. A deposit of 25% in cash or cashier's check will be required with all bids.

INVENTORY FURNISHED UPON REQUEST.

PAUL L. HALE, Trustee

P. O. Box 391 123 East Broadway Centralia, Ill.